

Brussels 30 July 2021

## COMMUNICATION FROM THE COMMISSION.

### Guidelines on State aid for climate, environmental protection and energy 2022

#### 1. ROAD TRANSPORT VEHICLES

- 1.1 Proportionality of aid for the acquisition and leasing of clean transport vehicles and clean service equipment and the retrofitting of vehicles

T&E objects to the use of 'total cost of ownership', or TCO, as a metric for calculating the maximum amount of aid allowed for the purchase and leasing of clean vehicles, including in particular, battery electric vehicles (BEVs).

A 2021 study by the European Consumer Organisation<sup>1</sup> shows that, at the EU level, and excluding purchase subsidies and tax incentives, battery-electric cars in the medium car segment bought today are already the cheapest powertrain on a lifetime TCO basis (see Figure 1 below).

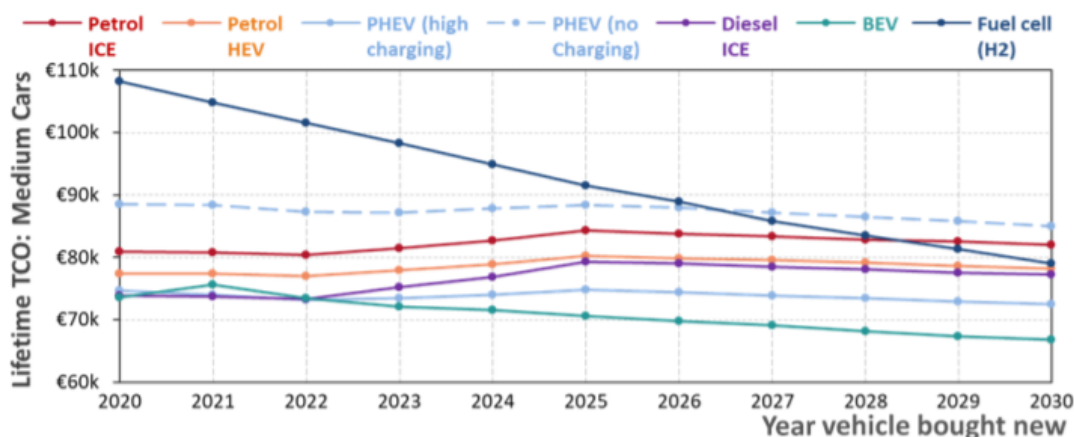


Figure 1: Lifetime TCO comparison between different powertrains for a medium car. Note that the year indicates when the car is first bought new.

Using the European Commission's proposed metric in Article 152, state aid for BEV purchase subsidies will not be permitted, therefore slowing down the demand for, and uptake of, zero-emission vehicles in Europe until the point at which BEVs become cost-competitive with ICE models at the point of production (which

<sup>1</sup> [Electric Cars: Calculating the Total Cost of Ownership for Consumers](#)

BoomerNEF predicts<sup>2</sup> will come between 2025-2027 depending on the vehicle segment).

Other studies looking into the TCO of BEVs vs. ICE vehicles show that TCO results vary a lot depending on: the type of car (small, medium, large), the country (because of charging costs), the use (annual mileage), the ownership period, the charging (home charging or low/high level of fast charging) and the purchase subsidies.

T&E believes it will be complicated to align state aid support to a TCO formula that can be fairly applied harmonized across the EU that considers the different parameters mentioned above.

T&E, therefore, proposes instead to calculate the eligible costs corresponding to the difference between the purchase price of the clean transport vehicle vs. the ICE equivalent, as the purchase price is an important barrier for the uptake of zero-emission vehicles. Technologies suitable or aid

- 1.2 Technologies suitable or aid - and Article 157

T&E believes that state aid should only be available to zero-emission technologies (i.e. battery-electric or fuel-cell electric vehicles). The proposed definition of 'clean transport vehicle', Article 18 (20) will allow the use of state aid for the purchase and leasing of plug-in hybrid vehicles (PHEVs) which rely on an internal combustion engine (ICE) and the combustion of fossil fuels (petrol and diesel) for propulsion. T&E has shown that, despite touting low CO<sub>2</sub> emissions, PHEVs emit 3-5 times more CO<sub>2</sub><sup>3</sup> in the real world than advertised. State aid should only be used to finance the purchase of future-proof zero-emission vehicles.

Ensuring state aid is only used for investment in future-proof zero-emission technology must also apply to the criteria for aid for the deployment of recharging or refuelling infrastructure under point 4.3.2. Criteria should be aligned with the recently proposed amendment to the General Block Exemption Regulation<sup>4</sup> (GBER), which specifies that it should "only cover aid granted for the deployment of recharging or refuelling infrastructures that supply vehicles with electricity or renewable hydrogen for transport purposes".<sup>5</sup>

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<sup>2</sup> [Hitting the EV inflection point](#)

<sup>3</sup> [Plug-in hybrids: Is Europe heading for a new dieselgate?](#)

<sup>4</sup> [State aid: Commission simplifies rules for aid combined with EU support and introduces new possibilities](#)

<sup>5</sup> With one caveat: The General Block Exemption Regulation should not refer to the broad concept of renewable hydrogen, but rather to the definition of Renewable Fuels of Non-Biological Origin in article 2.36 of the 2018 Renewable Energy Directive. In doing so, it would avoid adding to the demand for crops as well as advanced biomass-based resources, which are limited in terms of the volumes that can be produced sustainably (i.e. waste and residue-based feedstocks).

In Article 161, the Commission rightly points out that “*new investments in natural gas-fuelled (including CNG and LNG) transport vehicles may...aggravate negative environmental externalities in the longer run...hampering the wider development of a market for and the use of cleaner technologies*”.

T&E, therefore, opposes the derogation proposed in Article 162, which allows state aid for investments in natural gas-fuelled transport vehicles if the “*Member State demonstrates that cleaner alternatives are not readily available on the market and are not expected to be available in the short term*”. In the case of road transport vehicles, cleaner and zero-emission alternatives are already available on the market. Therefore, this exemption must be removed for all road transport vehicles.

## **2. ENERGY AND RENEWABLES AND ENERGY INFRASTRUCTURE**

### **3.**

- 2.1 Aid for the reduction and removal of greenhouse gas emissions including through support for renewable energy

As the Commission itself puts it: “*the cheapest and cleanest energy is the energy we don’t use.*”<sup>6</sup> Surprisingly, the Energy Efficiency First (EE1st) principle is not mentioned anywhere in the draft CEEAG whereas “It is recognised as a guiding principle of the Union energy policy” to ensure we only produce the energy we really need.

Applying the EE1st principle goes far beyond promoting granting of State aid for energy efficiency. As per the principle, “*Energy efficiency solutions should be considered as the first option in planning and investment decisions, when setting new rules for the supply side and other policy areas*” and “*To contribute to the creation of a single market, all Member States, National Regulatory Authorities, transmission and distribution system operators should apply the ‘Energy Efficiency First’ principle and remove all regulatory, technical and non-regulatory measures for energy efficiency improvements in the operation of energy net*”.<sup>7</sup>

The ‘energy efficiency first’ principle should also be operationalised in energy/fuel production and transport policies. It implies that Member States shall first consider whether cost-efficient, technically, economically and environmentally sound alternative energy efficiency and/or demand-response measures could replace in whole or in part the envisaged measures, whilst still achieving the objectives of the respective decisions. This includes, in particular, the treatment of energy efficiency as a key consideration in future investment decisions on energy infrastructure and in

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<sup>6</sup> [Q&A - Making our energy system fit for our climate targets](#)

<sup>7</sup> [Proposal for a Directive on energy efficiency](#)

decisions on measures to ensure security of supply. Such cost-efficient alternatives include measures to make energy demand and energy supply more efficient, in particular employing cost-effective end-use energy savings, demand response initiatives, more efficient conversion, transmission, and distribution of energy.

For transport and road transport, in particular, complying with the 'energy efficiency first' principle means that direct electrification should always be explored as the first option whenever technically feasible. Given the major conversion losses involved in the production of hydrogen and other e-fuels, direct electrification will require fewer primary energy inputs and use the final energy delivered more efficiently. Exploring different scenarios comparing the options of direct electrification vs. a higher use of e-fuels, a 2020 study commissioned by T&E shows that promoting even limited use of e-fuels in road transport now will lock the EU's transport decarbonisation in a pathway that will require a much greater deployment of renewables than necessary. This makes the transition harder to accomplish and could complicate the decarbonisation of the long-distance transport modes like aviation and shipping, where e-fuels are the only technically feasible decarbonisation pathway that can be scaled sustainably in the longer term and can meet the huge fuel demand of ships and planes - unlike the large-scale use of biofuels.<sup>8</sup>

T&E recommends that the guidelines define in the recitals and in the core paragraphs what the EE1st principle implies for Member States in terms of comparison between alternative energy measures and obligations to justify why energy efficiency and demand response measures cannot apply - in line with the Commission's implementation guidelines in preparation - and that the 'energy efficiency first'-principle be used as a priority baseline for assessing whether a measure in the energy sector is necessary, in particular for state aid for energy production and energy infrastructure.

## - 2.2 Biofuels for transport

T&E deplores that the 2022 guidelines continue to allow state aid for crop-based biofuels, bioliquids and biomass fuels production and contradict the previous guidelines for the period 2014-2020. All state aid for crop-based biofuels should be stopped immediately given their negative environmental and climate impacts.

The new guidelines acknowledge the negative externalities of crop-based biofuels, in particular the effects in terms of 'Indirect land-use change' (ILUC). Yet, the guidelines continue to allow support for all these biofuels up to the national cap of 7% of biofuels produced from food and feed crops of final consumption of energy in the road and rail transport<sup>9</sup>. A decade of experience with EU policies promoting

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<sup>8</sup> [Electrofuels? Yes, we can ... if we're efficient](#)

<sup>9</sup> according to the RED, the limit is based on their 2020 share, with 1% flexibility and maximum 7%

crop-based biofuels shows that the negative environmental and climate impacts of biofuels is already enormous, well below this cap. The share of crop biofuels was around ~5% in 2020.<sup>10</sup> Allowing state aid up to the 7% cap would significantly exacerbate the problem, enabling a significant increase in crop-based biofuel demand in national-level blending obligations.

The previous guidelines for the period 2014-2020<sup>11</sup> were very clear:

(112) *“In view of the overcapacity in the food-based biofuel market, the Commission will consider investment aid in new and existing capacity for food-based biofuel not to be justified. However, investment aid to convert food-based biofuel plants into advanced biofuel plants is allowed to cover the costs of such conversion. Other than in this particular case, investment aid to biofuels can only be granted in favour of advanced biofuels.”*

(113) *“Whilst investment aid to support food-based biofuel will cease from the date of application of these Guidelines, operating aid to food-based biofuels can only be granted until 2020. Therefore, such aid can only be granted to plants that started operation before 31 December 2013 until the plant is fully depreciated but in any event no later than 2020.”*

The situation hasn't changed as there is still overcapacity in the food-based biofuels market and their environmental performance hasn't improved. On the contrary, concerns about air pollution and climate change are shifting the transport sector away from liquid fuels towards truly zero-emissions technologies. Crop biofuels don't play a role in this transition. The same principles highlighted in the guidelines up to 2020 must apply also to these new guidelines.

Going back to the previous guidelines would also be in line with previous communications of the European Commission indicating that food-based biofuels *“have a limited role in decarbonising the transport sector and should not receive public support after 2020”*.<sup>12</sup> More recently, the Commission indicated that *“the use of whole trees and food and feed crops for energy production – produced in the EU or imported – should be minimized”*<sup>13</sup>. The guidelines should even go beyond and exclude all energy crops - not only food & feed crops.

Shifting state aid from crop-based biofuels to only advanced biofuels (i.e. waste and residue-based) would be more in line with the overall goal to incentivize advanced fuels over conventional crop biofuels. However, it does not seem necessary, as fuel suppliers are already subject to a supply or blending obligation for advanced biofuels

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<sup>10</sup> [10 years of EU fuels policy increased EU's reliance on unsustainable biofuels](#)

<sup>11</sup> Guidelines on State aid for environmental protection and energy 2014-2020 (2014/C 200/01)

<sup>12</sup> A European Strategy for Low-Emission Mobility (2016).

<sup>13</sup> Clean Target Plan, 2020.

under the Renewable Energy Directive. It seems that investment and operating aid for advanced biofuels are would be excluded from the possibility to receive state aid.<sup>14</sup>

By referring to sustainability criteria for biofuels in the Renewable Energy Directive or RED, the state aid guidelines ignore and exacerbate the weaknesses and gaps of the EU's main instrument promoting biofuels in transport. For example, the proposed guidelines promise an increased vigilance by the Commission *“to avoid distortions on the raw material markets from biomass support, in particular for forest biomass”*. This is a particular issue for advanced biofuels, where many of the waste and residue feedstocks already have competing uses in industries other than the biofuels industry (detailed in a 2020 T&E briefing on the topic<sup>15</sup>). Yet, the guidelines do not provide any detail on how such distortions will be avoided.

The reference in Article 76 to the *“sustainability and greenhouse gases emissions saving criteria in the Renewable Energy Directive”* is not helpful, as the RED has not put in place proper sustainability safeguards. This is especially true in the case of forest biomass, which relies on the implementation of sustainable forest management practices and maximum extraction rates for harvesting residues. None of these elements have been clarified in detail. The same goes for agricultural residues like straw or corn cobs. Some of the feedstocks included in RED's Annex IX should not be considered waste or residues<sup>16</sup> and others feedstocks present a high risk of competing uses<sup>17</sup>. Their use will lead to displacement effects, whereby these other non-biofuel industries may have to switch from waste and residues to crops, possibly having to switch from waste and residues to crops, even high-ILUC ones.

- 2.3 Investments in energy or industrial production based on natural gas

The guidelines make state aid conditional upon *“binding commitments by the beneficiary to implement decarbonisation technologies such as CCS/CCU or substitute natural gas by renewable or low carbon gas or to close the plant on a timeline consistent with the Union's climate targets”*. In the absence of any clear definition of low-carbon gases or a clear framework on renewables-based, green hydrogen<sup>18</sup>, this presents a potential major loophole for such investments. Moreover, the guidelines do not clarify to what extent fossil gas would need to be substituted, entirely or only partly.

- 2.4 Refuelling infrastructure and the fuels used

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<sup>14</sup> see articles 41.3 and 43.3 of the Commission Block Exemption Regulation (BER) Regulation (EU) No 51/2014: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014R0651&from=HR>

<sup>15</sup> <https://www.transportenvironment.org/publications/red-ii-and-advanced-biofuels>

<sup>16</sup> crude tall oil, crude glycerine, pre-commercial thinnings, pulp wood and trees stumps

<sup>17</sup> animal fats due to competing uses for soap or pet food production

<sup>18</sup> see forthcoming delegated act on Renewable Fuel of Non-Biological Origin



In our view, CNG or LNG refuelling infrastructure should not be able to benefit from state aid. The proposed guidelines leave the door open for CNG or LNG refuelling infrastructure to not create lock-in effects, with the condition that “*cleaner alternatives are not readily available on the market and are not expected to be available in the short term*” and that the Member States require a minimum of 20% biogas or Renewable Fuels of Biological Origin (RFNBO) are blended in these CNG or LNG refuelling stations.

Under the Directive 2014/94/EU or the Alternative Fuels Infrastructure Directive (AFID), Member States are already required to ensure that “*an appropriate number of refuelling points*” for heavy-duty motor vehicles is available along the TEN-T corridor. The revision of the AFID led to the conclusion that LNG trucks are a “fully mature” technology for road freight and that an LNG refuelling infrastructure and any remaining gaps are likely to be filled by 2025.<sup>19</sup> Therefore, there is no reason to continue to promote LNG refueling stations.

Regarding the second condition of a minimum blend of biogas or RFNBOs with the LNG, the guideline is unclear how and to what extent the renewable share of LNG will be increased to be compatible with the 2050 decarbonisation targets. This vagueness poses a high risk of carbon lock-in. According to a 2018 review by T&E, the maximum sustainable potential for waste-based biomethane could cover only around 6.2% to 9.5% of projected EU transport demand for 2030, in a business as usual scenario and assuming all of it is used for transport.<sup>20</sup>

This shows the extremely limited potential of biomethane to replace fossil CNG or LNG. In addition, the production cost of e-LNG compared to other fuels is higher than most other efuels, especially if the carbon source of the E-LNG would be circular, i.e. atmospheric carbon obtained via Direct Air Capture.<sup>21</sup> For these reasons, any public support for LNG infrastructure is likely to result in stranded assets, as cheaper fuels such as direct use of electricity and hydrogen will become available. The draft guidelines are not in line with the Commission’s proposals of the ‘Fit for 55’-package and the proposals for an Alternative Fuels Infrastructure Regulation in particular.

As indicated in Article 187, state aid for carbon-intensive hydrogen risks “displacing investments into cleaner alternatives by shifting demand away from non-fossil-based production processes”. The guidelines remain vague about what constitutes “carbon-intensive hydrogen”. We assume that the guidelines refer to how almost all hydrogen is currently produced, namely by means of steam methane reforming

<sup>19</sup> [EUROPEAN COMMISSION Brussels, 14.7.2021 COM\(2021\) 559 final 2021/0223 \(COD\) Proposal for a REGULATION OF THE EUROPEAN PARLIAMEN](#)

<sup>20</sup> [Natural gas-powered vehicles and ships – the facts](#)

<sup>21</sup> See Appendix C: [Renewable electricity requirements to decarbonise transport in Europe with electric vehicles, hydrogen and electrofuels](#)

without any carbon capture and sequestration ('grey hydrogen'). While we welcome the exclusion of 'grey hydrogen', the guidelines remain vague about what constitutes low-carbon hydrogen. Would any hydrogen with a carbon footprint lower than "carbon-intensive hydrogen", even if e.g. only 10% less carbon-intensive, enable projects to qualify for state aid? Any support for hydrogen refueling infrastructure must be conditional with the use of a pathway towards a 100% use of renewable hydrogen.

#### - 2.5 Natural gas infrastructure investments

The guidelines allow state aid in natural gas infrastructure that is "*fit for use for hydrogen and renewable gases or fuels of non-biological origin*". More detailed benchmarks are needed to ensure that this possibility does not constitute a loophole. A recent literature review by ACER concluded that "*conditions for repurposing of existing NG lines or for new hydrogen lines are likely to be met in very few, carefully selected locations across Europe*" and will mainly depend on "*compelling hydrogen market commitments or reasonable expectations, backed by serious and detailed market studies of potential industrial consumers of hydrogen*".<sup>22</sup>

### 4. Shipping

#### - 3.1 Natural Gas

Regarding the language on shipping investment, T&E finds promise but dangerous flaws in the language around LNG and transitional fuels. Article 161 undermines the gas lobby's arguments on the marginal, short-run benefits of natural gas:

- "*measures that incentivise new investments in natural gas-fuelled (including CNG and LNG) transport vehicles may lead to a reduction in greenhouse gas emissions and other pollutants in the short run but aggravate negative environmental externalities in the longer run, compared to alternative investments*"

Article 184 highlights why investments in LNG are so dangerous for actual green investments.

- "*Aid for the deployment or upgrade of refuelling infrastructure may unduly distort competition when it displaces investments into cleaner alternatives that are already available on the market, or where it locks in certain technologies, hampering the wider development of a market for*

<sup>22</sup> [Repurposing existing gas infrastructure to pure hydrogen: ACER finds divergent visions of the future](#)



*and the use of cleaner technologies. Therefore, in those cases, the Commission considers that the negative effects on competition of aid for the deployment or upgrade of refuelling infrastructure supplying natural gas-based fuels such as CNG and LNG are unlikely to be offset.*

Meanwhile, articles 163 and 186 note that alternative emissions abatement technologies and operations are already present. Simply but sailing slower, the worst polluting ships could save more emissions than by using the best LNG engines.

That said, articles 162 and 185 are hugely problematic.

*“the Member State demonstrates that cleaner alternatives are not readily available on the market and are not expected to be available in the short term”*

*“Aid for the deployment or upgrade of CNG and LNG refuelling infrastructure may be regarded as not creating long-term lock-in effects and not displacing investments into cleaner technologies if, at the moment when the Member State notifies the Commission of its plans to implement the aid measure or when the aid measure is implemented, the Member State demonstrates that cleaner alternatives are not readily available on the market and are not expected to be available in the short term”*

Investments in long-term real green shipping solutions must not be undermined by LNG. If LNG is given preferential state aid, no business stakeholder will have any financial incentive to invest in green solutions.

The central point is that when factoring in LNG’s methane slips, it is often worse for the climate than the fuels it seeks to replace. Moreover, it is already competitive with other fuels so there is no rationale whatsoever for it to receive additional government support through state aid. And this is a point recognised in the proposed guidelines, at article 187:

*... In the absence of appropriate safeguards, the aid may result in the creation or the strengthening of market power positions, which may prevent or impair effective competition in nascent or developing markets...*

The Commission must make this proposal coherent and future-proof. This means a future-proof proposal that rejects any support for fossil fuels.

### - 3.2 Carbon Contracts for Difference (CCfDs)

The background note states that one rationale of the revision of the state aid guidelines is new aid instruments like Carbon Contracts for Difference, but there is

only one article, namely Article 103, on CCfDs in the main text. CCfDs are key to bridging the price gap between conventional and clean marine fuels, and this article should therefore be expanded and supplemented with further articles to note the huge importance of CCfDs in industrial and transport contexts. State aid through CCfDs should be promoted as they can ensure security for operators, investors, fuel suppliers, and government to deploy expensive green fuels and ensure shipping's green transition.

## 5. Aviation

T&E finds the definition given to “*clean aircraft*” - 20 (h) - very problematic. Indeed, a clean aircraft can only be an aircraft that produces no CO<sub>2</sub> emissions, while having fewer non-CO<sub>2</sub> effects than conventionally fuel aircraft. Therefore, the only aircraft powered with hydrogen or electricity (both from additional renewable electricity) can be called clean aircraft.

Those aircraft with a conventional propulsion system, no matter the environmental improvements they bring compared to previous generations, and even if they can be powered by 100% SAFs, cannot be called clean aircraft. The guidelines on State aid must follow this stricter definition of clean aircraft, as citizens are entitled to the highest standards of a forward-looking and sustainable policy when their tax money is being spent.

As a result, whilst it is positive that the Commission recognises in article 166 that fleet expansion is the first and foremost foe of sustainable aviation, only a better definition of what constitutes a clean aircraft will make this article meaningful to tackle aviation's increasing climate impact. State aid needs to create the right incentive framework to develop zero-emission aircraft, rather than serve the ill-fated purpose of supporting aviation's environmentally damaging reliance on fossil fuels, despite incremental improvements.

Article 11 lifts the limit from the 2014 guidelines on aid to airports above 5m passengers which is potentially problematic given that, with the current state of travel demand, we need fewer, not more airports. As such, we request that it be specified that aid for airports is channelled towards the following two objectives: facilitating the closure of airports, particularly those that are not profitable and are already receiving support (Article 166) and investing into energy infrastructure to support SAF, hydrogen, and electric-powered aircraft.