

Comments on MTÜ ARB's questions on CBA

How was the CBA process organized?

- Global Project CBA was carried out over a span of one and a half years in accordance not only with the Terms of Reference agreed by key project stakeholders, but also fully in line with the **Guide to Cost-Benefit Analysis of Investment Projects released by the European Commission**. The compliance of the CBA report with these Terms of Reference was consistently monitored by a **Steering Committee** involving key project stakeholders from **all three Baltic states – Rail Baltic Estonia, Eiropas dzelzceļa līnijas, Lietuvos Geležinkeliai, Lithuanian Ministry of Transport and Communication and RB Rail**. In addition, its compliance with the EU CBA Guide was examined by and further improved based on the suggestions of an **experienced external reviewer**. The final report was **thoroughly presented** not only to all key Baltic and European institutional stakeholders, but also made available – in its entirety – and presented to the general public, in line with RB Rail's wider philosophy of promoting transparency and openness to public scrutiny in the project implementation. Additional **public seminars were held in Tallinn and Tartu** to closely engage with both project supporters and critics in a constructive and open fashion.

Answers to questions posed by MTU ARB

What kind of heavy truck type and why this is chosen in the assumptions "Heavy Truck Fuel % of OPEX 25%"?

- a. The source referred to in the Rail Baltica Global Project CBA Final report (hereinafter – EY report) page 147 refers to the data that were used as a proxy (the range between 25-30%) that was substantiated during discussions with local industry (as indicated in the section 13.4. of EY report, more than 40 stakeholders have been interviewed) to arrive at relevant benchmark rate for the calculations, considering the local conditions
- b. MTU ARB does not provide a justifiable source regarding the need to change the assumptions of the EY report, merely indicating that 24 cents/km is the value which "corresponds to the actual situation today" (no reference provided).

Why in the assumptions is used lower excise tax than actual today in Estonia and why this excise tax is not magnified by GDP growth as it is in the calculations of air pollution external costs

- a. Regarding the tax rate: the excise tax rate was chosen in adherence to the general methodology of the Global Project CBA, using a united source (Eurostat) for the date of the reference year for the analysis.
- b. Regarding excise tax growth: RB Rail fully supports the position proposed by MTU ARB: "*How much exactly excise and fuel prices are going to be in the future, or what kind of fuel is going to be used, **nobody knows.***", which

supports the approach by EY of keeping the variables unchanged in the forecasting period to the extent possible due to the uncertainty in the future. However, RBR cannot find a detailed justification for the assumption suggested by MTU ARB: "*It **makes sense** to assume that excise duty will rise at the same pace as the predicted increase in climate change effects.*" The analysis is done on real terms (page 143 of EY report), and all tax rates used in the analysis have been kept constant in real terms.

What kind of heavy truck type and why this is used in the assumptions for external costs for truck in the motorway 0.1 EUR/vkm and in the city 0.22 EUR/vkm?

a. In line with the EU CBA guide (http://ec.europa.eu/regional_policy/sources/docgener/studies/pdf/cba_guide.pdf), the question should be considered from two separate perspectives:

i. *Forecasting approach and reference scenario perspective.* As per the CBA guide (page 26), CBA compares a scenario with-the-project with a counterfactual baseline scenario without-the-project (*Incremental approach*). The incremental approach requires that the counterfactual scenario is defined as what would happen in the absence of the project. In cases of investments aimed at improving an already existing facility, it should include the costs and the revenues/benefits to operate and maintain the service at a level that it is still operable (*Business As Usual (BAU)*) or even small adaptation investments that were programmed to take place anyway (*do-minimum*). The choice between BAU or do-minimum as counterfactual should be made case by case, on the basis of the evidence about the most feasible, and likely, situation. If uncertainty exists, the BAU scenario shall be adopted as a rule of thumb. If do-minimum is used as counterfactual, this scenario should be both feasible and credible, and not cause undue and unrealistic additional benefits or costs. According to the EU CBA Guide, in most aspects of the analysis the reference scenario should be neutral and reflect the information that is known up to the point of the preparation of the forecasts. In other words, due to uncertainty of the future, the analysis should, to the extent possible, avoid any bias on results by making assumptions about the expected changes in calculation parameters unless such changes in the future are fully certain or suggested by the methodology. Such principle is observed throughout the preparation of EY report (also referred above in the answer regarding the excise tax rate growth). This means that the indicated "error" needs to be interpreted as a discussion regarding the likelihood of the assumptions materializing in the future.

In other words, the proposal expressed by MTU ARB is biased and if another core forecasting principle would have been applied it would affect the all modes of transport (including rail). Also, the suggested source by MTU ARB does not correspond to the Rail Baltica region and the truck fleet that would be potentially replaced by Rail Baltica.

ii. *Existing emission factor perspective.* According to the EY approach, a combination of average emission factor values that cover all EURO classes have been applied in the analysis to reflect the uncertainty of:

- *exact existing and future parameters of the truck fleet that is used along the Rail Baltica corridor.* For example, according to the forecasts, roughly one third of freight serviced by Rail Baltica shall originate in or travel to the CIS region which follows the EU emission regulations with a considerable delay and possible deviations (even up to 10 years: <http://transportpolicy.net/index.php?title=Russia: Heavy-duty: Emissions>). Also, according to the data by Latvian council of ports, transit and logistics (www.transport.lv), as of 1.05.2017 the share of Euro 0-II class vehicles registered for international freight shipments in Latvia was still above 20%. Similar tendencies are observable in the overall European freight transport fleet (Eurostat data: http://ec.europa.eu/eurostat/statistics-explained/images/c/ca/Share_of_age_categories_in_road_goods_transport%2C_2015_%28%25_in_vehicle-kilometres%29-F4.png) that indicate around 20% share of vehicles over 10 years old in terms of vehicle kilometres, with shares being higher for local fleets in the Baltic States and especially Poland. These factors contradict the indicated assertion by MTU ARB that approximately 100% of trucks will comply with the Euro VI standard.
- *the types of transport units most likely to be displaced by the future Rail Baltica due to modal shift.* Considering that the Euro VI standard vehicles are relatively more advantageous in international freight shipments, as compared to older Euro emission class vehicles, Rail Baltica is more likely to displace particularly such lower Euro emission class vehicles. Lower Euro emission class vehicles are more likely to be outcompeted by the new rail service. Accordingly, the avoided emissions benefit would not be overstated in the EY report, even if cleaner lorries (e.g. EURO V/VI class) are displaced by Rail Baltica at a lower rate.
- *average age of the truck fleet.* For example, MTU ARB ignores the tendencies in the average age statistics in Europe (<https://www.eea.europa.eu/data-and-maps/indicators/average-age-of-the-vehicle-fleet/average-age-of-the-vehicle-8>) that indicate observable growth of average vehicle age in the commercial vehicle categories. Especially this is noticeable between 2010 and 2014 when the EURO VI standards were introduced, what means that market reacted to the new standard introduction adversely. This

provides another example why the estimation of air pollution benefits cannot be changed out of context by looking solely at one factor.

- b. In addition, MTU ARB provides arguments that are biased towards only selected parameters, when methodologically correct approach would be to study such factors more carefully and as part of complex modelling for all transport modes. For example, MTU ARB argues that "**The EU is also introducing rolling road testing**, which in the near future is going to reduce truck pollution significantly. All this will also impact vehicles' pollution effects, that **even today are several times lower** than the estimates used in EY's calculations and will have decreased further by the time RB is projected to come into use." Methodologically, the effect of new technologies would need to be considered for all transport modes, including rail. Also, for the achievement of improvements in truck operations, a series of investments into road infrastructure and lorry fleet need to be accounted in the counterfactual scenario, improving the relative benefits from Rail Baltica.
- **To summarize**, with respect to the primary claim made by MTU ARB that the CBA overestimates the **rate of air pollution of lorries**, calculated by EY **by combining** the relevant rates for all emission classes **to reflect the mixed nature of the current fleet of lorries** in the Baltic states, it is important to emphasize that – given the inherent complexity and uncertainty regarding the possible future development in transport decarbonization – in this and other similar contexts it is **often impossible to make objective assumptions about the future behavior of emission parameters**. With this in mind, the EU CBA Guide prescribes a **cautious and conservative approach**, whereby a neutral reference scenario must be chosen, reflecting the information that is known at the time of forecasting and abstaining from potentially **biased assumptions about the uncertain future**. The approach suggested by MTU ARB, on the other hand, departs from this principle of neutrality by not only **suggesting highly ambitious emission standards for future lorries** (which, theoretically, may as well materialize in the future, but there is no way of objectively judging today with any degree of certainty), but also, perhaps deliberately, failing to acknowledge the potential effects of further decarbonization and environmental innovation, for example, in the fields of **rail traction and power supply**. It is with this seemingly biased and methodologically unscrupulous approach that MTU ARB comes up with the **sensationalist conclusion** that the CBA emission benefits are overstated by around 3 billion euros.

What kind of proportions are used in the calculations for external costs for heavy truck between city and motorway?

- a. The analysis has considered HEATCO indications