**FIEC** is the European Construction Industry Federation, representing via its 32 National Member Federations in 28 countries (25 EU, Norway, Ukraine & Turkey) construction enterprises of all sizes, i.e. small and medium-sized enterprises as well as "global players", carrying out all forms of building and civil engineering activities.

# Position Paper 17.07.2020

## FIEC reaction to the taxonomy chapter on "Infrastructure for low carbon transport (land transport)"

### Key messages

- Eligibility should not only be linked to vehicles as the reduction in emissions also stems from the infrastructure itself
- The construction, upgrade and maintenance of infrastructure contributes to the mitigation of climate change by improving rolling resistance and by reducing congestion
- Energy-generating infrastructure can reduce the energy consumption of mobility systems

"Rationale:

[…] Eligibility for infrastructure is linked to eligibility criteria for fleets using the infrastructure, with additional criteria relating to zero carbon transport (active mobility)." *(p. 337)*

Linking the eligibility of infrastructure to the vehicles using the infrastructure is particularly restrictive as this falls short of the potential the construction of new infrastructure and the upgrade or maintenance of existing infrastructure have regarding the mitigation of climate change. **The reduction in emissions does not only stem from the vehicles, but also from infrastructure itself.**

Given the uncertain evolution regarding the uptake of low carbon vehicles and the **longevity of infrastructure**, this "rationale" also leads to a **"lock-out" of infrastructure** in spite of its potential to contribute to the mitigation of climate change both in the short and long term.

→ FIEC therefore recommends **amending the "rationale"** as follows:

**Rationale:**

**Eligibility for infrastructure is linked to the fleet that is using or is projected to use the infrastructure; and infrastructure that contributes to the reduction of emissions.**

→ accordingly, FIEC also recommends **amending the "principles" by adding:**

**"Uptake of infrastructure that contributes to the reduction of $CO_2$ emissions"**

→ accordingly, FIEC recommends **amending the "thresholds"** on the basis of the following reasoning:

**Infrastructure contributing to the mitigation of climate change**

The EU Green Public Procurement Criteria for Road Design, Construction and Maintenance from 2016[1] already illustrate the environmental impact the construction and maintenance of road infrastructure can have. Surprisingly, the taxonomy falls totally short of recognising these. Among the main environmental impacts are **rolling resistance** (i.e. the resistance between tyre and road surface) **and congestion**.

[1] European Commission: COMMISSION STAFF WORKING DOCUMENT EU Green Public Procurement Criteria for Road Design, Construction and Maintenance. 10.06.2016. URL: https://ec.europa.eu/environment/gpp/pdf/GPP%20criteria%20Roads%20(2016)%20203.pdf

### a) Rolling resistance

There is a clear link between the quality of the road and the amount of $CO_2$ emissions in the sense that the quality of the pavement is directly linked to vehicles' fuel consumption. The higher the quality of the pavement, the lower the rolling resistance and the lower the vehicles' fuel consumption. And less fuel consumption means less emissions. **Therefore, the "thresholds" should include the construction of roads insofar as climate-friendly pavement is being used as well as the upgrade of existing roads to climate-friendly pavements.** For example, the Danish government decided at the end of 2019 to increase the use of climate-friendly asphalt with the objective of reducing CO2 emissions.[2] Equally important regarding rolling resistance is the continuous maintenance of road surfaces in order to preserve the quality of the pavement and keep the rolling resistance at a low level. Therefore, **the "thresholds" should include operations dedicated to the maintenance of infrastructure surfaces.** The link between the surfaces' quality and fuel consumption is established in several studies.[3] For instance, Anne de Bortoli, researcher at the "Laboratoire Ville Mobilité Transport", found out that a degraded road leads to an increase in cars' fuel consumption by up to 10%.[4] Addressing the quality of road surfaces can thus make a **significant contribution to the reduction of emissions in the transport sector** and should be included in the taxonomy.

### b) Congestion

Similar to rolling resistance, congestion has a high impact on energy consumption and emissions. Here again, the infrastructure itself and the issue of maintenance come into play. Neglecting maintenance results in the degradation of infrastructure. This applies to both the surface and structural elements. At a certain point, this will result in a limited usability and can even put the users at risk. Major interventions, up to the temporary closure of a structure, will then become necessary which result in major traffic disruptions leading to congestion as cars have to use the same or alternative routes where they are squeezed together. Against this background, **the "thresholds" should include operations dedicated to the maintenance of infrastructure, both maintenance targeting the preservation of the surfaces' quality and structural maintenance.** In a similar vein, the "**thresholds" should include smart infrastructure** that helps to manage the traffic flow more efficiently, such as roads that send warnings directly to the car, or that allows for remote monitoring of the infrastructure and can signal the need for repairs.

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[2] State of Green: Danish roads are getting paved with new, climate-friendly asphalt. 21.11.2019. URL: https://stateofgreen.com/en/partners/state-of-green/news/danish-roads-are-getting-paved-with-new-climate-friendly-asphalt/.

[3] For example: Wang, Hao et al.: Quantifying greenhouse gas emission of asphalt pavement preservation at construction and use stages using life-cycle assessment. In: International Journal of Sustainable Transportation. Volume 14, 2020, pp. 25-34.

[4] De Bortoli, Anne : Pour un entretien routier durable. Prise en compte des conséquences de l'interaction chaussée-véhicule dans l'aide à la décision des politiques de resurfaçage – illustration par un cas autoroutier français. 21.12.2018.URL :https://www.lvmt.fr/wpcontent/uploads/2018/12/Teaser_th%C3%A8se_A_de_Bortoli_ENPC.pdf.

- Full version: https://hal.archives-ouvertes.fr/tel-02162111v1/document.

### c) Energy-generating transport infrastructure

**Moreover**, the taxonomy falls short of the **multifunctionality of infrastructure** and the potential this has concerning the mitigation of climate change. Future infrastructure will not be limited to the mere transport of people and goods. This is for example the case for **roads that generate energy** with built-in solar panels or geothermal roads. These roads become energy-sufficient generating energy for lighting, signals, video surveillance etc. These are highly innovative approaches which are sometimes still at an experimental stage but have high potential for climate change mitigation. This is the kind of innovation in sustainability that should be supported by the taxonomy. Therefore, the **"thresholds" should include energy-generating transport infrastructure**.

## Annex:

➔ **Amending principles and thresholds**

**Principles**

Demonstrate substantial GHG emission reduction by enabling an:

- Increase the number of low- and zero emission fleets and improving fleet efficiency
- Improvement in efficiency of the overall transport/mobility system
- **Uptake of infrastructure that contributes to the reduction of $CO_2$ emissions**

**Thresholds**

The construction and operation of transport infrastructure is eligible in the following cases:

1. **Specific** infrastructure that is required for zero direct emissions transport (e.g. electric charging points, electricity grid connection upgrades, hydrogen fuelling stations or electric highways).
2. Infrastructure and equipment (including fleets) for active mobility (walking, cycling, e-bikes and e-scooters)
3. Infrastructure that **is projected to** be predominantly used for low-carbon transport if the fleet that uses the infrastructure meets the thresholds for direct emissions as defined in the relevant activity - measured in CO2 emissions per kilometre (gCO2/km), CO2e emissions per tonne-kilometre (gCO2e/tkm), or CO2e emissions per passenger-kilometre (gCO2e/pkm)
4. Non-electrified rail infrastructure with an existing plan for electrification or use of alternatively powered trains
5. **Smart infrastructure that helps to manage traffic flow more efficiently**
6. **Energy-generating transport infrastructure (e.g. solar roads or geothermal roads)**
7. **Operations dedicated to the maintenance of infrastructure, both maintenance targeting the preservation of the surface's quality and structural maintenance (e.g. of bridges and tunnels)**
8. **Upgrading of existing road infrastructure by installing climate-friendly pavement**
9. **Construction of road infrastructure equipped with climate-friendly pavement**

For all cases:

- Only infrastructure that is fundamental to the operation of the transport service is eligible.
- Infrastructure that is dedicated to the transport of fossil fuels or blended fossil fuels is not eligible