

## 1. Target

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- ▶ Carrier, sea ship owner, road transport commissioner
- ▶ Company who wants to evaluate the impact of a transport fleet on its global footprint

## 2. Objective

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The aim of this study is quantification of the societal benefit resulting from the partial or total renewal of a fleet of transport (new vehicles with innovation, equipments or new fuel sources). The renewal of part of vehicles of a fleet entails extra costs for the carrier but also generates benefits for the community. The quantification of the societal footprint of last-generation vehicles is achieved through the monetization of the different negative externalities generated by the transport activities.

A comparison of the results between the initial fleet and the renewed fleet makes it possible to evaluate the environmental and societal benefit for the carriers and its customer. The monetization approach allows to calculate a global footprint including all externalities and to value in terms of social responsibility, the carrier's investment.

## 3. Methodology, Pre-requisites and Organisation

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This study requires the applicant to define standard reference flows before the study starting point and availability of actual values of distance and consumption for those reference flows. In case of size truck change, new assumption will have to be chosen for the loading rates and the number of trips.

For the initial fleet and the renewed fleet, the transport flows corresponding to the standard reference flows are evaluated in cooperation with the applicant taking into account the local logistical constraints. When scenarios and their possible variants have been identified, rating of one or more of the following 6 externalities is established using a recognized methodology:



Noise



Accidents



GHG emissions



Congestion



Pollutants and Particles



Upstream Impact

For new engines for which there are no default values, assumptions are made for the choice of consumption and emission factors taking into account the most recent bibliographic available data.

## 4. Study organisation

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**Step 1:** Identification of the standard reference flows, taking into account the impact of loading capacity, determination of transport flows for the initial and renewed fleet. If necessary, impact of assumption and emission factors justifications for new engines.

**Step 2:** Calculation in monetary value (€ / t.km) of the cost of externalities for each fleet and for the standard reference flows. Comparison of the full societal cost, partial costs or per type of externality. Quantification of the robustness of the assumptions and improvement if necessary.

**Step 3:** Oral presentation of the result

## 5. Deliverables

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The deliverable consists of a study report describing scenarios, reference data, calculation assumptions and the detailed results (by externalities, by scenarios and possible variants).

Recommendations can be established to facilitate the deployment of a solution. The robustness of the assumptions is also evaluated.

## 6. Our Resources

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The study is conducted by TK Blue experts who participate in International and European working groups (GLEC, ...). The TK'Blue methodology for quantifying externalities is based on internationally recognized methods and the most recent reference data (Ricardo AEA report, ...). Calculations are carried out in accordance with the applicable standards and regulations: The GHG/CO<sub>2</sub>e calculator complies with French regulations and the European standard NF EN 16258.

## 7. References

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They trust us :



Projet  
Olympic  
Energy



NANTES  
SAINT-NAZAIRE  
PORT



## 8. For more information :

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