

Terms of reference for the impact assessment of the public service grant to *Voies Navigables de France* (French Inland Waterways)

1. Background

Environmental impact reporting is a key issue in the Green Bond market. At the time of the initial issuance of the Green OAT, in January 2017, France has committed to provide a thorough *ex post* environmental impact evaluation of green eligible expenditure under the guidance of the Green OAT Evaluation Council.

The French inland waterways authority, *Voies Navigables de France* (VNF) is the public institution in charge of most of French waterways network. VNF operates 6,700 out of the 8,000 km¹ of French inland waterways, including channels, rivers, dams, sluices, etc. VNF also promotes inland transportation of goods, participates in the territories' economic and touristic development and develops activities on the public fluvial domain.

The grant to VNF was identified as the next green spending to be evaluated, the first one to be assessed in the transport sector. This document defines terms of reference for the report assessing the impact of this subsidy.

As this is the second evaluation conducted under the supervision of the Council, it is important to build on the lessons drawn from the first study; in that perspective, it could be underlined that the definition of the impact assessment objectives should pragmatically consider the data and tools available, since it constrains the achievable output. As a result, some parts of the evaluation could be based on a more qualitative assessment, as indicated below.

2. Purpose and content of the report

The VNF subsidies assessment should report on the results of the scheme regarding the *ex post* impact of these subsidies on the environmental performance of the transport sector as well as on the other environmental impacts of the maintenance of the inland navigation network. It will feature a non-technical summary and a full study including a more detailed description of the methodologies used and more detailed results so that the Council is able to assess the scientific relevance of the analysis.

The study will first include a brief description of VNF and its missions, and will explain how environmental objectives are included in these missions. This description will also focus on the description of the subsidy obtained from the State Budget to contribute to the maintenance of the network as well as for other interventions, and its evolution over time. The annual public reporting on expenditure from the State as well as VNF annual reports will provide all the necessary details, while French administration in charge of the budgetary program will be able to provide some information if needed.

Relevance and effectiveness of the subsidies to VNF

The assessment will take into account the fact that the main task given by the French State to VNF is the maintenance of the French waterways; this means that VNF has other missions and objectives than the environmental objectives against which the study will be undertaken.

The report will assess the effectiveness of the policy **with respect to three environmental objectives, as presented in the 2017 allocation and output report of the Green OAT: climate change mitigation, climate change adaptation, and biodiversity**. These three different evaluations will be presented as three subsections of the report.

Among other activities, the French waterways are used to transport goods, and help avoid CO₂ emissions by avoiding goods transportation by railways and roads. A brief overview of existing methodologies leads to the conclusion that models and quantitative methodologies to assess VNF actions in this respect are available.

The actions carried out by VNF with respect to biodiversity protection and climate change adaptation are far more difficult to assess quantitatively. The aim of these evaluations will be to suggest options inspired by existing methodologies and suggest options that could provide useful information for investors of the Green OAT.

¹ The other 1,300 km are handled by local communities or other public institutions.

As a result, the impact of VNF actions on CO₂ emissions within the transport sector will be discussed quantitatively, while adaptation to climate change and impact on water and biodiversity and ecosystemic services will be discussed more qualitatively.

Any model used in the study will be briefly described and any academic references will be specified.

3. Sub-report on climate change mitigation

This sub-report will assess the effectiveness of the policy with respect to its objectives, in terms of climate change mitigation. The use of inland waterways for freight transport impacts greenhouse gas emissions from the transport sector through modal shift, which is the replacement of a means of transport (e.g. road or train transport in this case) with another (waterway transport).

The methodology for converting subsidies into modal shift and avoided emissions will be described in detail. Any model used in the study will be briefly described and any academic reference will be specified.

Possible evaluation indicators

- Modal shift induced by the subsidies
- Avoided CO₂ emissions enabled by modal shift
- Evolutions of share of the transport of goods that transit by each transport mode compared to a counterfactual scenario

The report will include a sensitivity analysis of the results in order to identify the parameters having the greatest impact on the results.

Finally, an appendix will summarize the assumptions used, as well as possible methodological lessons and ways to improve the evaluation method.

Although pollution prevention and control was not mentioned in the 2017 allocation and output report of the Green OAT as one of the objectives this expenditure contributes to, VNF activities may have impacts on pollution and air quality in relation to modal shift. This issue will be discussed in a section of the mitigation sub-report of the VNF study via a brief literature review and/or methodological recommendations.

4. Sub-report on climate change adaptation

As part of the mission of public interest entrusted by the French State to VNF, VNF contributes to water management and water preservation. It also contributes to the prevention of floods and to mitigate their effect in crisis situations (e.g. buffer droughts consequences). VNF can indeed use its water storages, as well as locks and other technical devices to manage water stocks.

Actions taken by VNF in terms of water management and flood prevention will be qualitatively assessed regarding their contributions to climate change adaptation policies, within the framework of a cost-benefits analysis. Quantitative elements may also be included where available and feasible, based on available assessment methodologies.

Possible evaluation criteria:

- Contribution to water management and water resource preservation
- Contribution to population protection against flooding

5. Sub-report on ecosystemic services and biodiversity

As part of the mission of public interest entrusted by the French State to VNF, VNF is committed to various actions in favor of biodiversity restoration or conservation, in terms of ecological continuity restoration, wetlands preservation, conservation of wild flora, patrimonial biodiversity... At the same time, ensuring maintenance and extension of inland waterways for navigation purposes, which is one of the main objectives of VNF, may also have negative side effects on biodiversity (e.g. destroying vegetation within a river bed), even if actions to minimize those residuals effects are properly taken.

The overall assessment of the impact of VNF actions will rely on the evaluation of VNF actions and projects taken to restore and preserve biodiversity and on the identification and evaluation of ecosystems services resulting from the functioning of the ecosystems impacted. It will rely on ecological indicators that define the gain of biodiversity and socio-economic indicators – if possible – that helps to evaluate in monetary terms the ecosystem services. Quantitative elements may also be included where available and feasible, based on available assessment methodologies.

Possible evaluation criteria:

- Contribution to ecological continuity
- Contribution to biodiversity preservation and restoration
- Landscape effects

6. Referees

Two to three referees will closely monitor the evaluation process and guarantee the independence of the evaluation process. They will be chosen on the basis of their knowledge of one of the fields of study.

The referees will: i) on the basis of the terms of reference, provide insights and recommendations to the institution in charge of the evaluation; ii) receive documentation from the institution in charge of the evaluation at the earlier stages and provide guidance during the whole process ; iii) provide the Evaluation Council with a summary of the exchanges that will have taken place with the institution in charge of the evaluation, as well as their opinion on the final version of the evaluation report. The Secretariat will bring technical support along all the process.