

Terms of reference for the impact assessment report of the tax-credit for energy transition

Attached: A short presentation of the French tax credit for energy transition

1. Background

On January 24, 2017, France launched its first green sovereign bond, the “green OAT”, and thus became the biggest issuer of green bonds bringing to the market the liquidity, size and maturity characteristic of prime sovereign issuer (7 billion EUR, 22 years maturity). The French green bond was reissued in June 2017 and lastly in December 2017, the outstanding reaching now 9.7 billion EUR. This green bond targets government spending (“green eligible spendings”) in particular on the fight against climate change and pollution, on adaptation to climate change, and on biodiversity preservation.

Environmental impact reporting is a key issue in the Green Bond market. In order to improve the credibility and ambition of the Green bond in a sovereign context, France wishes to establish high reporting standards and has committed to provide a thorough impact evaluation of green eligible spending under the guidance of the Green OAT Evaluation Council.

The *Crédit d'Impôt pour la Transition Énergétique* (tax-credit for energy transition), was identified by the Council as the first green spending to be evaluated. This document defines terms of reference for the report assessing the impact of the CITE.

2. Purpose and content of the report

The CITE assessment should report on the results of the scheme as regards improvement of the environmental performance of the housing targeted by the tax credit. It will consist of a non-technical summary and a study with supplementary materials including a more detailed description of the methodology used and more detailed results so that the Council is able to assess the scientific relevance of the analysis.

Relevance and effectiveness of the CITE

The report will include a brief description of the CITE: description of the scheme, number of beneficiaries, tax expenditures by renovation type, expenditure amounts by renovation type, evolution of the CITE over time. This part of the study will come from the annual public reporting on CITE expenditures. French administration will provide all the necessary details.

The report will assess the effectiveness of the policy with respect to its objectives.

The report will then be based on relevant indicators to assess the impact of the CITE on GHG emissions and energy consumption in the French housing sector. The methodology for converting tax expenditures into numbers of renovations and then to energy savings and avoided emissions will be described in detail. Any model used in the study will be briefly described and any academic references will be specified.

Additional effect of the CITE

One of the challenges of the assessment will be to distinguish between renovation work that would have been done without the CITE and additional work done with the CITE tax credit. It will therefore be useful to construct a counterfactual scenario. Considering the inherent difficulties of such a complex and ambitious issue, this item of the ToR should be considered as an experimental approach. Various indicators could then be calculated to estimate the additionality of the CITE, which relevance, accuracy and interpretation limits will need to be discussed:

- Number of beneficiaries and numbers of renovations with and without the scheme
- Level of performance of renovations with and without the scheme
- Energy efficiency of the housing stock with and without the scheme
- "leverage effect" of the CITE understood as additional private investment per public euro invested.

Economic efficiency of the CITE

The report will also examine the economic efficiency of the CITE, i.e. its ability to achieve its objectives (and / or energy consumption) at lower cost. It will be based on efficiency indicators commonly used in economic studies. The report may include a comparison of the efficiency of the CITE with that of other policies aiming at supporting building renovation. Again, relevance, accuracy and interpretation limits of these comparisons will need to be discussed.

Sensitivity analysis

The report will include a sensitivity analysis of the results in order to identify the parameters having the greatest impact on the results. The impact of energy renovation policies is indeed strongly dependent on the assumptions made on renovation costs, energy prices, energy emission factors and the impact of renovations on real household consumption ("rebound effect").

Cost distribution analysis

The report will analyze the distributive effects of the CITE on the main economic actors (households, state, public authorities, public works...).

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

3. List of possible evaluation indicators

Environmental Performance Indicators

- Avoided CO₂ emissions
- Gains on energy consumption

Energy performance Indicators

- Level of performance of renovations
- Evolution of the energy performance of the housing stock

Leverage effect

- Number of beneficiaries and numbers of renovations with and without the scheme
- Level of performance of renovations with and without the scheme

Economic indicators

- Investments in renovation

4. Referees

The two referees for this evaluation are Philippe Quirion and Louis-Gaëtan Giraudet. Philippe Quirion is a CNRS senior researcher in the area of environmental economics and climate policy. He has published several papers in peer-reviewed journals on carbon pricing and energy transition. He is currently advising PhDs on energy efficiency in building renovation. Louis-Gaëtan Giraudet has a PhD thesis in the field of the development of usage of electricity and energy efficiency. He is a research fellow at Ecole des Ponts ParisTech, CIRED. He is an expert in energy efficiency policy and energy modeling, especially in housing renovation. He works closely with Philippe Quirion.

Real independence of evaluations are the keystone of their credibility and the presence of referees is regarded by the Council as very important. The referees will closely monitor the evaluation process and guarantee the independence of the evaluation process. In particular they will: i) discuss the terms of reference in order to provide insights and recommendations to the institution in charge of the evaluation; ii) write an intermediary report on the basis of early documentation that will be provided by the institution in charge of the evaluation, if possible for the next meeting of the Council, that will take place end-of-June or

early July; iii) provide the council with an independent second opinion once having been provided with the final version of the evaluation report. The Secretariat will bring technical support all along this process.