

# SCORELCA

## ***Call for Tenders n° 2018-03***

### **Environmental avoided impacts and avoided emissions**

Deadline for email and paper responses:

**Thursday 11 October 2018**

The concept of “avoided impacts” in LCA is used in (at least) two different cases:

Type 1) When considering the allocations of impacts for multi-functional processes in LCA: In this case, the aim is to reach a mono-functional system ensuring the same function than the baseline scenario.

Type 2) When quantifying the effects of an action that reduce the pollution comparing to a situation where this action hasn't occurred.

Those two kinds of impacts are of different natures, from a conceptual point of view but also for their methodological processing. However, the same term is often used for both type: “avoided impacts”.

In the first case, this term is used to express the “neutralization” of a function for a multi-functional product system with the subtraction of the impacts of one (or more) system, traditionally providing the function not studied (notion of baseline). Thanks to the studied system, the supply of this service by the classical sector has been avoided.

We could have assigned alternatively the impacts of the multifunctional system between its different functions and finally reach a smaller impact of the studied function.

This approach of subtracting a reference system make it possible to avoid affectation. This approach is therefore preferred to affectation in ISO 14044.

In the second case, avoided impacts are about the reduction of the environmental impacts of a given branch. (for example, the use of an enzyme in the pigs feeding that allows reducing the quantities of food and ensuring the same growth of the pigs : x kg of food have been avoided and then the impacts to produce this food have been avoided). This approach amounts to compare two situations with an LCA. There is no assignment to perform between different features here, only a service rendered that is less polluting than others (previous or competitor). In this case, we often talk about “avoided emissions” because people often focus on GHG emission reductions.

For example, a light vehicle will emit less CO<sub>2</sub> than a heavier one (all things being equal). An actor of the value chain of the light car may want to enhance its contribution to avoiding the CO<sub>2</sub> emissions of the heavy car in its communication.

The will to reduce GHG emissions has led to the proliferation of innovative solutions developed for that. Companies want to report on their efforts and to this end, they need to quantify their GHG avoided emissions due to those efforts. The ISO 14034 standard: "Environmental technology verification (ETV)" now provides a way to verify claims regarding the performance of new environmental technologies. Its content could be used in this project.

In order to avoid misunderstanding, we will use "avoided impacts" for type 1 and "avoided emissions" for type 2.

This study will focus on the different methodologies for calculating avoided impacts on the one hand and avoided emissions on the other hand. It will provide recommendations for a right evaluation of these impacts and in particular : How to define the baseline for the comparison, how to define temporal consideration (which electricity model to use for long life products, how will the reference case be adapted?), spatial consideration (can we talk about avoided emissions for the same site that changes its process?), data sources, which usage scenarios will be chosen, how to communicate (should we report on pollution transfers?) etc.

Some works have been published, especially in France by EpE (report on "avoided emissions" <http://www.epe-asso.org/en/avoided-emissions-march-2018/>) and by ADEME ("QuantiGES", until now focused on GHG but will over time cover all environmental impacts) that allow robust choices (work that have been presented in AFNOR GHG Commission). The applicable standards and the international studies will be strong bases for this study (see [https://www.ilcaj.org/ws/ws20180209e\\_.php](https://www.ilcaj.org/ws/ws20180209e_.php)).

## Objective

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- Identify and characterize the possible way to deal with the issue of avoided impacts and avoided emissions: clearly define each type of approach and specify the existing methodological framework.
- Illustrate some identified methods with practical case studies (at least one for Type 1 and one for type 2).
- Propose methodological and practical recommendations for the assessment of avoided impacts/emissions for a sector, a plant, a product, a service.

## Study content

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### Step 1: State of the art

The following tasks will be covered:

Separately, for “avoided impacts” type 1 and for “avoided emissions” type 2:

- Definitions and state of the art, including standardization, regulations, global good practice. The conceptual differences between type 1 and type 2 will be reminded and developed. Moreover, some bibliometric elements (number of publications that mention type 1 or type 2) could bring precisions on the use of each type.
- Description and analysis: what are the different calculation methods for avoided impacts/emissions in LCA and more precisely for GHG? The team will detail the strengths and weaknesses, the actors involved: institutional, association and industrials,
- Identify controversies, explain why these polemics (technical reasons or other). In particular, the provider will study: the potential conflicts between two actors of the supply chain to take the benefits, the relevance of the reference in time and space...

The provider will specify here when the approaches are common to both type and when (and how) it is different between type 1 and type 2.

On a broader level, the review will cover all the methodological elements linked to this practice.

It will highlight the differences and commonalities, the benefits and drawbacks for each approach and the systems they foster (e.g. depending of the cut-off).

It also will enable the identification of methodological approaches to be selected for the other tasks of the project.

### Step 2: Case study and in-depth analysis

For each type, the goal is to apply different approaches to one or several case study, depending on the choice of the provider. (Test several methods on a unique case study or on different cases could be both interesting).

In this way, the provider will detail in its proposal, the number and the subject of the cases he can propose given that he has to provide the required data.

The description has to be clear enough to enable the monitoring committee to finally decide which cases will be carried out.

A detailed analysis of the case studies will help presenting and explaining the differences generated by the methods tested.

The value choice (as used in ISO 14044) used by the provider will be justified.

The issues to be addressed by the project will include (but are not limited to):

- Common for the two type:

- The choice of the baseline
- Attributional versus consequential aspects
- What are the prospective elements used
- Time dimension : evolution of the systems over time

- Specific to type 2:

- Regarding an organization, how to aggregate many calculations of avoided emissions?
- How to consider avoided emissions on a whole value chain? How to allocate them along this value chain, between all stakeholders? (How to define this value chain, what about the recycling phase?)
- How to check the claims of avoided emissions before communicating them?
- Communication on avoided emissions: in which format (chart), in which context, what data to be shown? (particularly for the extra-financial reporting, how to integrate the avoided emissions)

This step must allow each member of the monitoring committee to claim ownership of the presented approaches.

The didactic aspects of the report, particularly for this step will be an essential element. Specific formats could be proposed (forms, charts, diagrams, tables,...)

In addition, the elements that are lacking in the normative or other frames of reference will be identified.

### Step 3: Recommendations

The work carried out will be used to provide:

- A practical guide (modus operandi) describing all the steps to deal with avoided impacts/emission (independently) of type 1 and type 2 (it will allow members, among other things, to identify the convergences between the two types and the features of each approach) and to give a quantified credible result.
- Appropriate working rules when they are missing, i.e. that should gain consensus among practitioners, in particular in ISO discussions.
- Guidelines for the communication/promotion of the results for each type, including advices for checking.

The use of the results by SCORELCA's members can be immediate, especially to launch studies aimed at enhancing their innovations. This step, and more generally the final report, should support this practice by serving as a searchable referential, mentioned in the communication that will be made by members following their application of the recommendations of the report.

The results of this study can be used to support the French position during the forthcoming standardization work of TC207 / SC5 / WG12 (Amendments to ISO 14040 and ISO 14044).

## Workplan

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The expected phases and deliverables of the project are:

- Inception meeting: Detailed presentation of the problem, working mode of the team, identification of the case studies. This work will consist mainly in deepening the elements presented in the commercial offer and detailing some particular elements. Following this, an inception report will be produced and sent to the monitoring committee, which will validate it.
- Realization of the state of the art, according to the choices made at the launch meeting and the commercial offer. Choice of the case studies.
- Intermediate meeting: presentation of all the results of the state of the art, the learning and an in-depth analysis of this bibliography, as well as the first recommendations. These elements will be discussed in the meeting. An interim report, gathering all the work done at this stage will be sent at least two weeks before the intermediate meeting to the monitoring committee, which will produce comments (during and after the meeting).
- Conducting the case studies and methodological deepening. The objective of this third phase of the project is to produce a final report answering all the objectives of the project, and this before the final meeting. Practical and concrete recommendations will be proposed in the draft final report and discussed at the final meeting.
- Sending the draft final report three weeks before the final meeting to the monitoring committee, producing comments from the committee.
- Final Meeting: presentation of the work done since the intermediate meeting, recommendations (taking into account comments received) and discussions. Additional comments may be produced after the meeting if necessary. These comments should be incorporated into the final version of the final report.

## Meetings

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Taking part of three meeting in Paris (eventually in Lyon):

- Launch (including a working plan description and the inception report, two weeks after the beginning of the study),
- Mid-term (including the presentation of the bibliographical results and the first key items)
- Final (including the final temporary report and the interim French scientific overview).

For each meeting, the team will be in charge of the presentation materials (PDF or PPT in French or English).

The meeting will be held **in French language** in preference.

Finally, the team will hold a **feedback meeting** in French during about an hour by web conference (system supported by SCORE LCA if needed). The meeting, carried out after the final meeting, will aim to present the detailed results of the study to active and partners members and to any person SCORE LCA wish to invite.

## Deliverables required

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- 1 inception report in French,
- 1 mid-term report in French,
- 1 final report in French,
- 1 set of slides in English presenting summarized overview of the main findings of the study,
- 1 scientific overview in around 5000 words (including: summary + detailed scientific content of the study) in French,
- 1 scientific overview in around 5000 words (including: summary + detailed scientific content of the study) in English,
- Conducting a webinar restitution of the results for members, in French, at the end of the project (duration : 1 hour).

## Study duration

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**About 6-9 months.** The launch meeting will take place in Paris in November.

## Budgetary framework

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**About 30 000 Euros duty-free.** The offer could add optional propositions to be discussed.

## Notes

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If the content of the realized work makes it possible, the selected team could be highly encouraged by SCORE LCA to participate in the enhancement of the results (preparation of publications, participation in workshops...): including a detailed option covering this aspect in the offer and a dedicated budget in the financial proposal is strongly recommended.

Moreover, the team could propose to SCORELCA any promoting action that seems appropriate.

The proposed team in the response must be the one that realizes the study. The amendment of the applicant team after filing the reply may question the choice of members of SCORELCA.

Any change in the proposed team during the study should be notified to SCORELCA, the reorganization should be detailed and subject to the acceptance of SCORELCA.

## Submission

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The projects must be presented with a document based on the English form available on the SCORELCA website: [www.scorelca.org](http://www.scorelca.org)

### Careful! The responses are limited to 30 pages !

The deadline for the submissions is **Thursday, October 11st 2018**. (email date and postmarked by the deadline date)

Each response really must be sent *by paper mail* to the following address:

**SCORELCA**  
**Bât. CEI 1**  
**66 Boulevard Niels Bohr**  
**CS 52132**  
**69603 VILLEURBANNE cedex**  
**FRANCE**

AND *by email* to:

[contact@scorelca.org](mailto:contact@scorelca.org)

## Responses evaluation

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Beyond compliance of the answers to the above instructions, the main evaluation criteria will be the quality and the argument of the response, the skills of the applicant team and particularly his experience in LCA, in international standardization; the quality and availability of staff for the project.

In addition, the evaluation will pay attention to the complementarity of the proposed skills. If a partnership is proposed, **any details on the organization and the link between the different entities (to demonstrate the effectiveness of the partnership during the project) will be appreciated.**

Finally, the educational aspect of the project will be a great differentiating element.

