Call for Tenders

for developing and providing ecoinvent with a “modelling tool for calculating and generating LCI for waste disposal and treatment activities”.

This is an open invitation for tender.

1. Background & project description ........................................................................................................... 2
2. Task description ........................................................................................................................................ 2
3. List of deliverables .................................................................................................................................... 4
4. Support during project implementation .................................................................................................... 4
5. Reporting procedure ................................................................................................................................ 4
6. Transfer of rights and acknowledgements ............................................................................................ 5
7. Schedule and timeframe .......................................................................................................................... 5
8. Budget....................................................................................................................................................... 5
9. Application requirements ......................................................................................................................... 5
10. Evaluation criteria ................................................................................................................................. 6
11. Question and answer period .................................................................................................................. 6
12. Closing date for proposal submissions ................................................................................................. 6
13. Submission procedure .......................................................................................................................... 6
1. Background & project description

ecoinvent is the world’s leading supplier of consistent and transparent Life Cycle Inventory (LCI) data of renowned quality. ecoinvent is a proud partner of the Sustainable Recycling Industries (SRI) programme, a programme funded by the Swiss State Secretariat for Economic Affairs (SECO) and jointly implemented by the Swiss Institute for Materials Science & Technology (Empa), the World Resources Forum (WRF) and ecoinvent, through three interconnected programme components:

Component A - Life Cycle Inventories: SRI gathers and provides local LCI data for the assessment of agricultural and industrial activities through the enhancement of local and regional LCA expertise with the aim to provide freely available regionalized LCI data for India, India, South Africa and Egypt

Component B - Recycling Initiatives: SRI improves local capacity for sustainable recycling activities together with private and public institutions, as well as the informal sector in a number of partner countries (Peru, Colombia, Ghana, Egypt, India)

Component C - SRI Roundtable: SRI facilitates a stakeholder consultation for the development of sustainability criteria for secondary raw materials

Ecoinvent is in charge of component A of the SRI project. With this call ecoinvent aims to subcontract the task of developing a modelling tool for calculating and generating LCI datasets for waste disposal and treatment activities

2. Task description

The tender shall develop and supply ecoinvent with a Modelling Tool for calculating and generating LCI for waste disposal and treatment activities. The Modelling Tool is essentially composed of two modules:
the model, which is a conceptual framework for calculating LCI data of waste disposal and treatment activities based on the composition of the waste and technology of waste treatment,
and
the calculation tool, which is the software platform to enable and facilitate the exchange of information between the underlying model and human interface.

The tool is built to implement the model, to form a Modelling Tool for waste disposal and treatment activities. A detailed description is as following:
LCI Model

The tender shall generate and supply ecoinvent with an LCI modelling framework to be applicable to waste disposal and treatment activities in ecoinvent database version 3. The model shall allow for estimating the energy use and emissions associated with, and generating unit process datasets for waste disposal and treatment activities, according to the composition of waste input, common waste treatment practice(s) with respect to waste type and legislations, geographical considerations, and climatic conditions.

The technologies to include for waste disposal include, but are not limited to: landfiling, incineration, as well as open dumping of waste with no treatment included. The model shall include relevant disposal practices and treatment technologies for the following regions with focus on specific countries: Latin America (Colombia, Peru and Brazil), Southern Asia (India), and Sub-Saharan Africa (South Africa), as well for Switzerland, representing Europe, for comparative purposes. The underlying model shall be valid globally and for the waste treatment activities currently available in the ecoinvent database to ensure comparability of results.

The model shall be consistent with and be prepared according to the ecoinvent Data Quality Guidelines v3. It shall be provided in a form so that changes to basic underlying assumptions can be made easily, to facilitate future maintenance and updating of the model.

Calculation tool

The calculation tool shall be the users’ interface to facilitate the transformation of input data (such as waste compositions) into LCI datasets, using the model explained earlier. The tool shall have a human interface to receive inputs—such as composition of the waste, type(s) of waste treatment, geography—and generate LCI datasets in ecospol2 format. The tool can be implemented in any common software platform, such as MS Excel, or be based on a standalone solution. It is also imperative that the tool shall have be user-friendly to facilitate the generation of LCI datasets for inexperienced users.

The Modelling Tool shall allow for consistent calculation of LCI data from any waste composition, according to the type of treatment practice as well as geography. The Modelling Tool shall be supplied with some background data such as the default composition of waste outputs of a number of common industrial processes (such as building demolition, metal production) or of common waste streams (such as municipal solid waste), employing literature data, estimates and theoretical considerations, specifically for the geographies listed in Table 1 and also Switzerland for comparative purposes. The Modelling Tool shall be provided with an easy-to-follow user-guide manual.

The Modelling Tool shall follow the functionality of the existing Modelling Tool in ecoinvent version 2 for waste-specific inventories of disposal1, but updated and adapted to ecoinvent version 3, and extended with more applications and functionalities to cover a wider range of waste compositions.

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waste disposal and treatment practices/technologies—including the waste compositions and relevant practices in geographies listed in Table 1. The developed Modelling Tool shall be flexible to accommodate for future additions and for updating of the underlying model.

Table 1: Scope of requested services

<table>
<thead>
<tr>
<th>Geography</th>
<th>Global, with focus on Southern Asia (India), Sub-Saharan Africa (South Africa) and Latin America (Brazil, Colombia, Peru)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Products/services</td>
<td>An LCI Modelling Tool for waste disposal and treatment activities</td>
</tr>
<tr>
<td>Sectors</td>
<td>Waste disposal and treatment activities</td>
</tr>
</tbody>
</table>

The data provider shall report to and collaborate with the ecoinvent management and respective editors during the project.

3. List of deliverables

A globally applicable LCI Modelling Tool, for calculating and generating LCI datasets for waste disposal and treatment activities, according to composition of the waste, type of waste treatment practice, as well as local conditions and regulations. The tool shall be based on a model that is updateable and well documented. The Modelling Tool shall have a human-interface for entering the user inputs (such as waste composition, type(s) of treatment, and geography), and it shall be supplemented with a user manual and information about the composition of waste for common industrial processes and waste streams for the geographies listed in Table 1 and Switzerland.

4. Support during project implementation

Ecoinvent management and its editors, who will be selected based on the type and sector of the LCI data, will provide support and guidance to a certain extent during different phases of project inception and execution.

5. Reporting procedure

The tool providers shall report to ecoinvent, through appropriate means such as telephone conversation or written documents, the status and progress of the project according to the original plan of action submitted along with the proposal.
6. Transfer of rights and acknowledgements

During the submission process submitters will be asked to grant ecoinvent the ownership of the software and the background model included in the Modelling Tool.

7. Schedule and timeframe

It is considered as a bonus (see evaluation criteria) if the Modelling Tool is provided to ecoinvent within 9 months from the start of the project.

8. Budget

The funding ceiling to carry out the subcontracted tasks is limited to CHF 70,000 (seventy thousand Swiss Francs), including any applicable VAT. The budget shall include all costs, including personnel and operational costs to carry out the project. The contract will be issued in CHF.

9. Application requirements

Interested tenders shall provide a detailed explanation on the LCI Modelling Tool to develop, including

A. Types and formats of inputs and outputs
B. Methodologies employed in the Model to calculate LCI
C. Software platform used to develop the Tool
D. Integrated Background data
E. Special features (if any)

In addition, the tenders must demonstrate that they possess the resources and thus are competitive enough to fulfil the aforementioned project. The tenders shall provide the name and CV of all the key persons who will participate in different tasks of the data collection project, along with their expertise level, estimated time devoted to the project, and their respective charging fee (per day).

A tender can come from an organization or consortium of organizations. No subcontracting of tasks to external institutions will be allowed.
10. Evaluation criteria

The assessment to select the project partner(s) will be based on the following criteria:

**Expertise and experience of the institution or combination of institutions (50%)**

- demonstrated knowledge and expertise in the sector detailed in Table 1 of this call for tender (Min=1, Max=5)
- experience in performing LCA, and in LCI data collection activities, specifically related to the activities/sectors detailed in Table 1 (Min=1, Max=5)
- experience in working with ecoinvent version 3, and in the data preparation to create LCI datasets according to ecoinvent Data Quality Guidelines v3 (Min=1, Max=5)
- similar software development experience (Min=1, Max=5)

**List and quality of proposed deliverables (50%)**

- Specifications of the Modelling Tool (methodology, format, ease of use) developed for generation of LCI data for waste disposal and treatment (Min=1, Max=10)
- a timetable that presents the plan according to which the tender intends to realize sub-tasks related to the offer in this call for, with speedier delivery being considered a bonus (Min=1, Max=5)
- integrability of the Modelling Tool with the existing methodology of the ecoinvent database (Min=1, Max=10)
- required budget to carry out the proposed project, with offers significantly below the maximum amount being rewarded extra points up to the maximum for free offers (Min=1, Max=5)

11. Question and answer period

A question and answer period is envisaged for interested parties to submit questions related to the preparation and submission of the full proposal. All such inquiries and technical questions shall be directed to Amir Safaei via email: safaei@ecoinvent.org. The deadline to register your questions is 20th of May 2016.

12. Closing date for proposal submissions

29th of May 2016

13. Submission procedure
Tenderers shall submit tenders in electronic format by email to safaei@ecoinvent.org before the closing date for proposal submission indicated above.

The evaluation will be performed within two weeks of the deadline for tender and the bidders will be informed immediately. The draft contract will be issued within 2 weeks after the selection of the successful bidder and work has to start within one weeks after the signature of the contract. In case of any questions, please contact Amir Safaei at safaei@ecoinvent.org.