

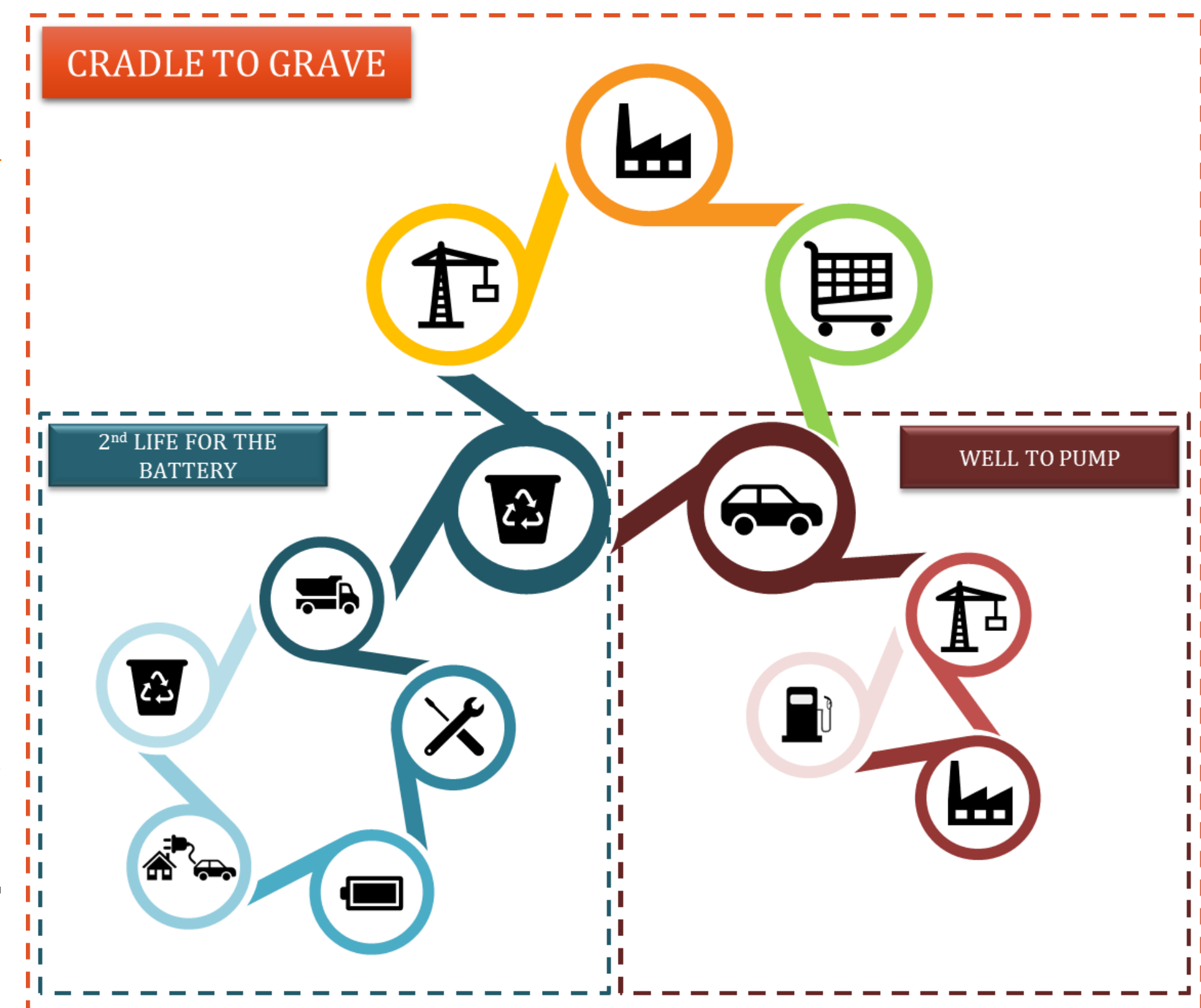
TOWARDS AN INTEGRATED SUSTAINABILITY ASSESSMENT OF ELECTRIC MOBILITY SCENARIOS

Centre O.I.E.

Observation, Impacts, Energie
(Sophia Antipolis, France)

INTRODUCTION & OBJECTIVE

- To ensure a fair evaluation of electric mobility alternatives, a global sustainability approach with a life cycle perspective is required.
- Representative impact categories should be selected following a rigorous process for the three sustainability dimensions: environmental, societal and economic dimensions.
- Challenges :
 - High number of required criteria to evaluate a product system,
 - Lack of social dimension procedure for selecting relevant impact categories.

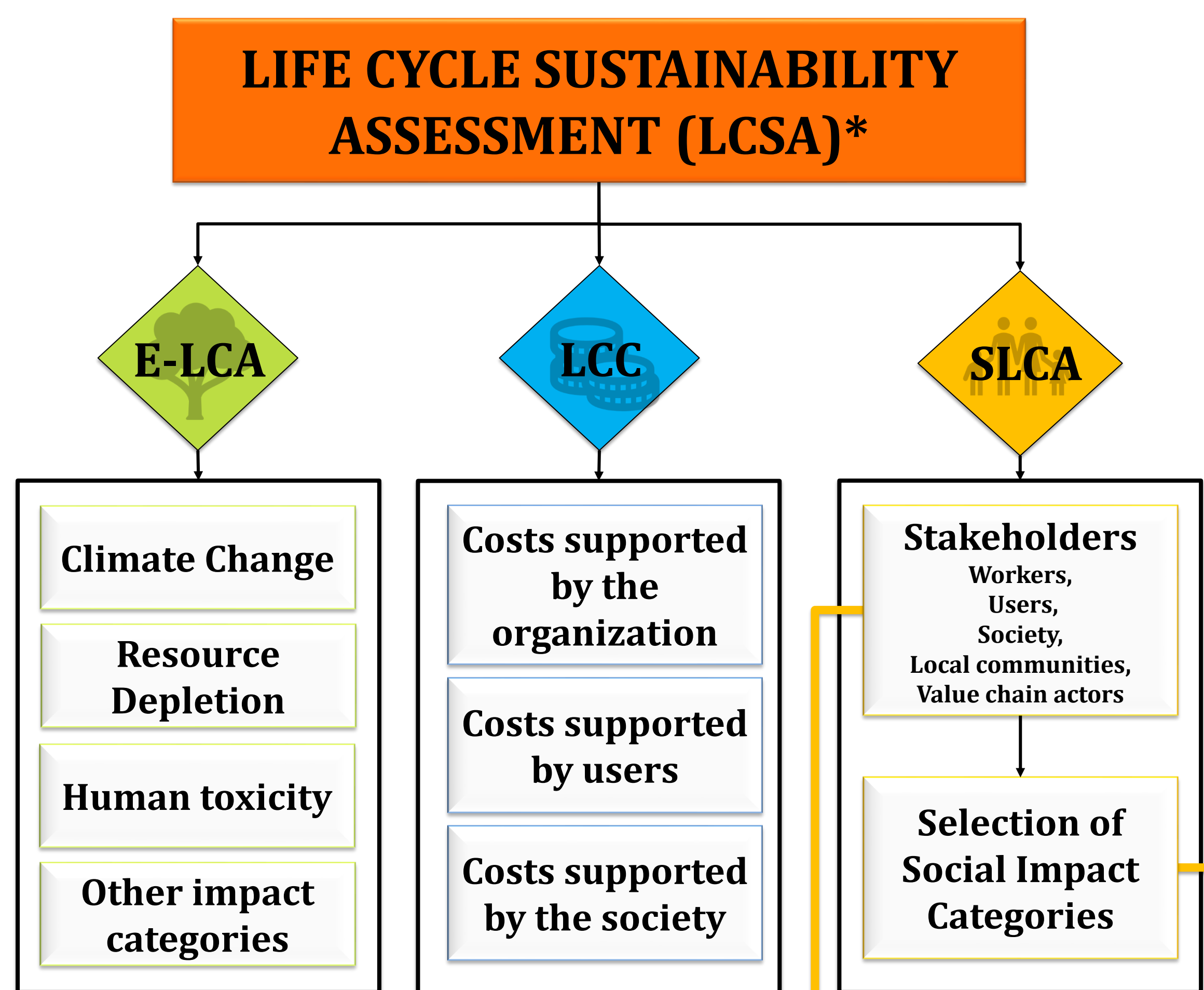


AUTHORS

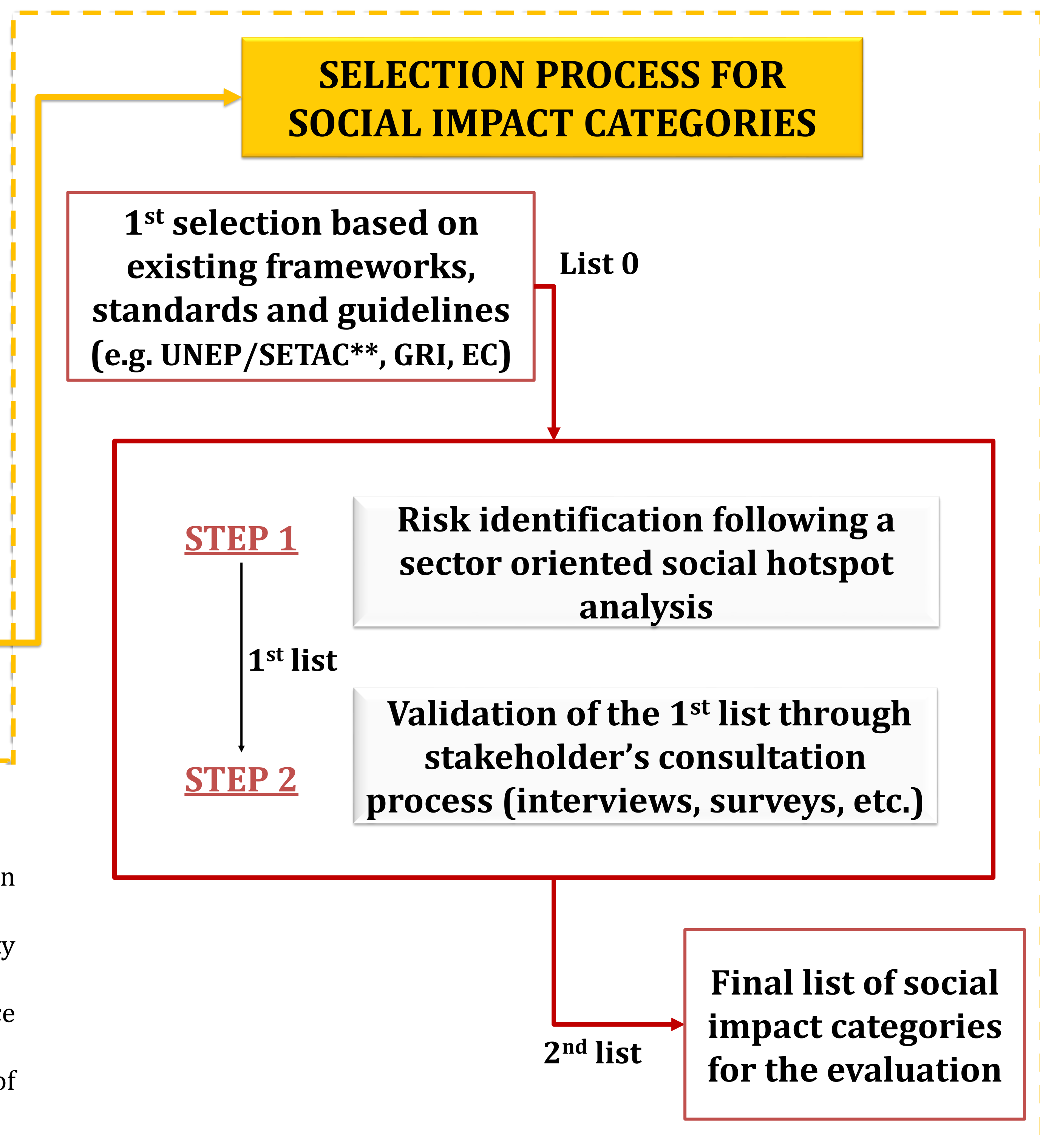
Ghada BOUILLASS
Isabelle BLANC
Paula PÉREZ-LÓPEZ

THE DESIGN OF A RIGOROUS PROCESS FOR THE SELECTION OF IMPACT CATEGORIES IS A KEY CONTRIBUTION TO THE METHODOLOGICAL DEVELOPMENT OF SUSTAINABILITY ASSESSMENT.

MATERIALS & METHODS



RESULTS & DISCUSSION



Stakeholders identification & prioritization

- Stakeholders involved or affected by the value chain were identified based on the system boundaries defined and then classified into the 5 impact categories proposed by UNEP/SETAC in SLCA Guidelines.
- Three main criteria are chosen to perform the prioritization:
 - **Vulnerability**: risk probability and severity,
 - **Control**: capacity of influence or political changes,
 - **Concern**: need or interest of the stakeholder category.

CONTACT

ghada.bouillass@mines-paristech.fr
www.oie.mines-paristech.fr



CONCLUSION & PERSPECTIVES

- A framework is proposed to define a set of sustainability indicators. They could subsequently serve a quantitative assessment of electric mobility scenarios.
- As a perspective of this work, a LCSA approach is to be coupled with a Multi-Criteria Decision-Analysis (MCDA) to constitute a decision-making tool for electric mobility scenarios.

(*) Valdivia, Sonia, et Cássia Maria Lie. 2012. « Towards Life Cycle Sustainability Assessment ». Sustainability Assessment: 86.

(**) Benoît, Catherine et al. 2013. Guidelines for Social Life Cycle Assessment of Products. Paris, France: United Nations Environment Programme. <http://ra.ocls.ca/ra/login.aspx?inst=centennial&url=https://www.deslibris.ca/ID/236529>

