

# "CircE - European regions toward Circular Economy"

## INTERREG Europe Project



### Synoptic report

### Opportunities prioritization

By PP06 CD2E

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## 1. Executive summary

According to the Application Form of the project, partners had to map the potential opportunities in each chosen sector with a method agreed among partners and proposed by the lead partner. Through this methodology, all the project partners were supposed to analyse the opportunities and, in semester 3, to define priorities in CE opportunities for each region and each sector, taking into account the suggestion from the stakeholders. Each partner was then supposed to analyse its opportunities and barriers, in order to deeply understand what are the priority opportunities that could be chosen for every sector and find out criteria to identify such priorities.

The common method utilized for mapping the potential opportunities was called the “CircE tool”, in which were listed, among the different input data, the opportunities collected by each PP.

## 2. The common CircE’s methodology for prioritization

The prioritization work is the follow-up of the identification of the circular economy opportunities in different sectors made by all the partners in the first semesters.

On the 10th of April 2018, during the Interregional Seminar “Circular Innovation” in Lille, CircE PPs attended a brainstorming meeting to define a first set of possible criteria for the prioritization of opportunities. These criteria were for example the impact (social, environmental, economic), the timescale (S, M, L), the initial investment, the feasibility (e.g. public acceptability), the replicability. Then the Lead Partner proposed to use a common methodology for the prioritization of the opportunities, and in particular the AHP methodology, introduced by Thomas Saaty in the early 1970’s. The objective was to ensure a common, objective and reproducible analysis with a quite well consolidated methodology. Based on multiple-criteria analysis, AHP looked like the most suitable methodology to allow the CircE partners to take legitimate decision, and enabled us to consider both quantitative and qualitative criteria.

In the steering group held during the PPs meeting from the 13<sup>th</sup> to the 15<sup>th</sup> of June 2018 in Arnhem and Nijmegen (NL) all PPs agreed to use this methodology.

The main steps of the methodology are:

- problem definition and search;
- reduce the set of alternatives;
- develop a decision hierarchy;
- determine the relative importance of criteria making judgments;
- evaluate alternatives under criteria;
- synthesizing;
- perform sensitivity analysis;
- documenting the decision.

The CircE PPs followed these steps, focusing first of all on the problem and on the objective, during the above mentioned meeting in Lille (April 2018), making a first list of the possible criteria. After that meeting, LP worked on that list of criteria reducing them to the most important and developing a first version of the criteria tree that was presented at the following meeting in Nijmegen (June 2018). The general structure of the criteria tree was approved by all PPs, some PPs proposed little changes to some criteria, so that the final structure of the shared criteria tree was definite only in July 2018.

After that, PPs made the pairwise comparisons among criteria, determining the relative importance of the defined criteria. Despite the decision of using a common methodology to prioritize the opportunities, only the main steps of the AHP method were common to all PPs, like for example the use of the criteria tree. Other points, such as the way to carry out the pairwise comparisons, were up to each PP. Starting from the pairwise comparisons made by each PP, the technical assistance of the LP calculated the final value of the weights for each criterion.

Thus, PPs evaluated the opportunities of the CircE tool under these criteria, synthesizing then the process in a report. The operative way each PPs perform his analysis varied depending on the number of opportunities to be evaluated, the number of SH and sectors.

### 3. How the Partners used it

The AHP methodology gives a work setting in order to be able to understand how some action taken into one region could be duplicated in another. The aim was to not use a strict and unique methodology but to offer the possibility to each partner to adapt their prioritization work to the regional background. Therefore, each partner used the AHP methodology in its own specific manner and defined its own weights.

Regarding the implication of the stakeholders, two different strategies emerged during the prioritization process. For the most of partners, it was difficult to work with their stakeholders as the prioritization work and the AHP methodology required a lot of time. These partners decided to define the weights and to evaluate the opportunities internally, through individual thinking and collective discussion first, and then to present the results to the stakeholders to get their feedbacks and validation.

Some partners decided to try to involve the stakeholders in all or only some of the steps of the AHP methodology. In one case a stakeholder meeting was hold to define the Level 1 criteria, in other cases the stakeholders were asked to express their views on the three different levels through online surveys.

The different criteria tree from the different partners are displayed in the Annex 1. They illustrate the fact that every partner has its own motivation and objectives regarding circular economy.

## 4. Figures on the results of prioritization

All the partners share the same observation, the AHP methodology is a useful tool to take decisions on multi-criteria issues. If everyone thinks it is a great tool, there is still some room for improvements. Within the discussion with the stakeholders, some aspects of circular economy appeared to be lacking mostly on the environmental impact. For example, some stakeholders were frustrated not to see any criterion on biodiversity, human relations, working conditions or civil awareness.

As explained above, the AHP methodology was a very adaptable framework. Each partner was asked to define its own weights according to its regional background. Circular Economy is touching many aspects of the society, strategic, economic, social or environmental. Therefore, the reasons to develop circular economy can be very different from one region to another. The analysis of the weights used to build the criteria tree for each region tells us that all partners in the CircE project are not expecting the same thing from circular economy.

The results, presented in the Annex 2, highlight a rather great difference in the level 1 impacts between the different partners. We may notice that most of the partners are willing to develop a more circular economy for environmental issues. Some partners are indeed greatly concerned with negative environmental consequences related to the linear model of economy especially air and water pollution. Economic impacts are the second thing most important for the partners which is often linked to social impacts through the opportunity of local job creation.

Among the other results we can mention an equilibrium between the profit sought by a project and the payback time, a very low expectation of a better social inclusion and a rather low score on resource efficiency. For many partners, the priority is to reduce GHG emission and increase the energy efficiency of their process.

If, the stakeholders often validated the ranking defined by the partners, the partners and their stakeholders do not always share the same point of view on the impacts expected through the development of circular economy. Indeed, some partners have seen significantly different weight definition or opportunities evaluation. The panel of stakeholders was often too short to make a proper analysis of these differences which may be linked to personal interests but it should remind us how important it is to include stakeholders into the discussion and the building of the action plan.

ANNEXE 1 – AHP Criteria Tree

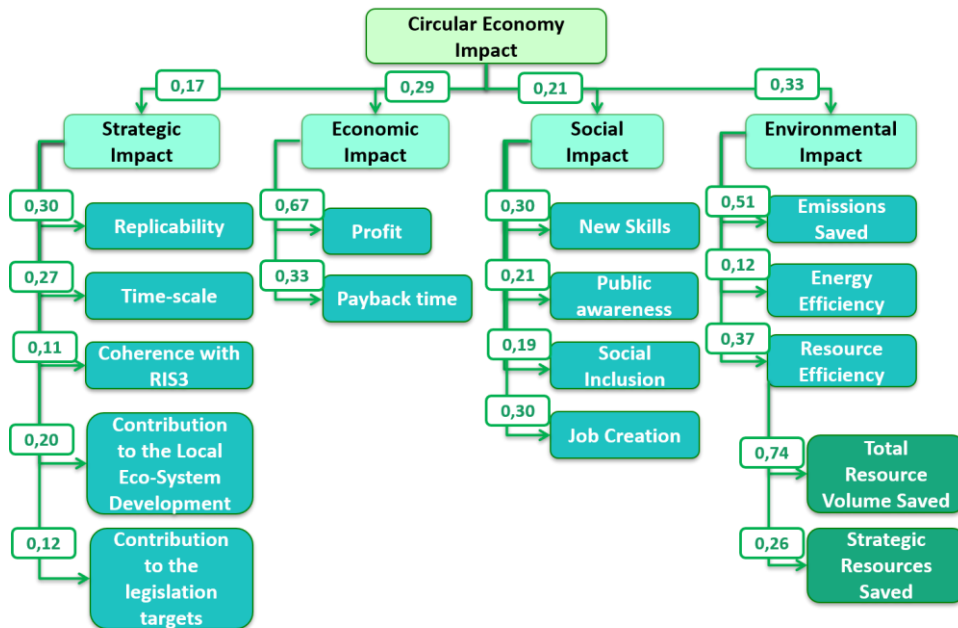


Figure 1 : Criteria Tree PP1

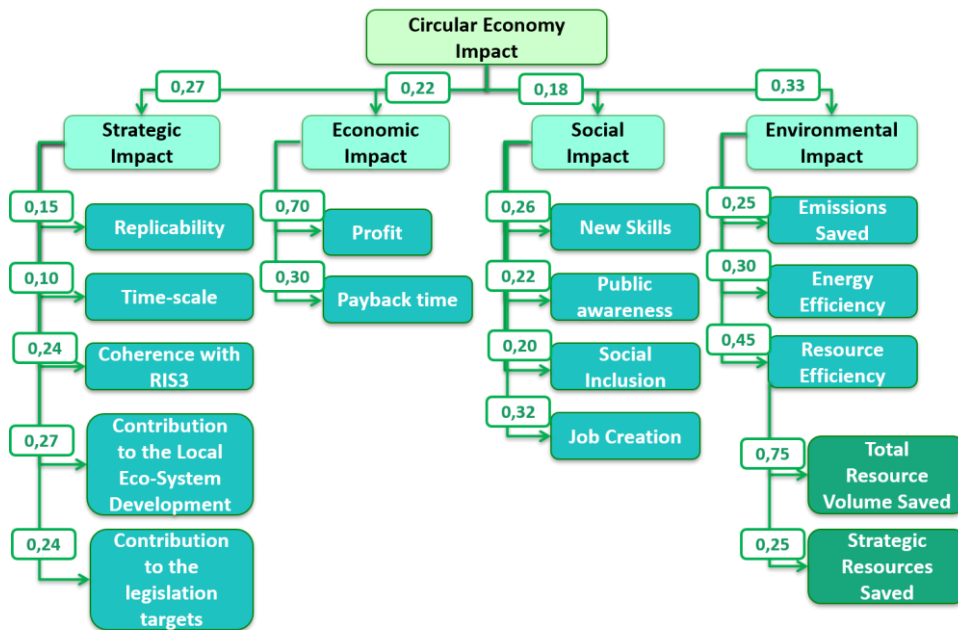


Figure 2 : Criteria Tree PP2

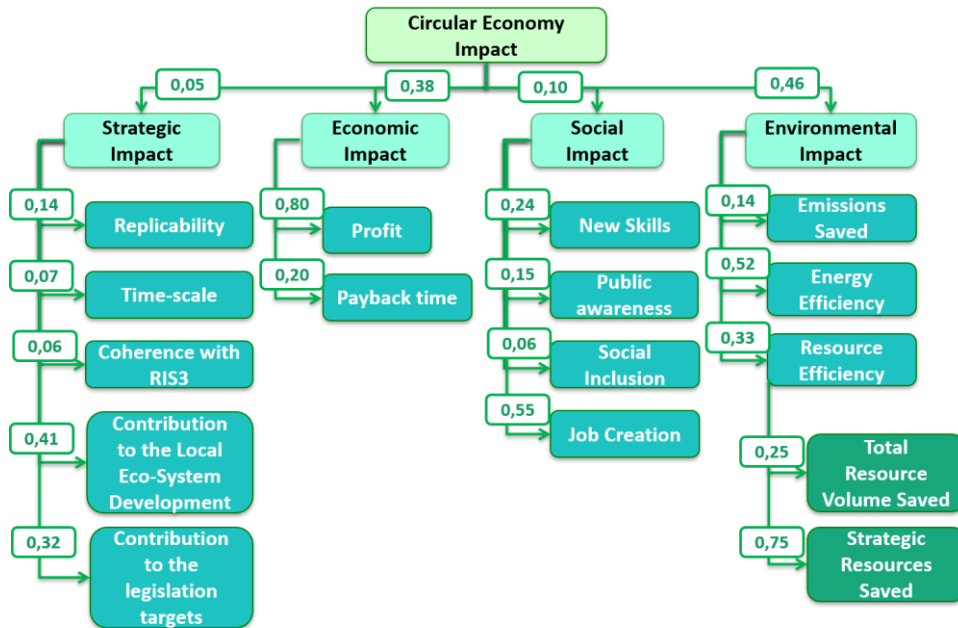


Figure 3 : Criteria Tree PP3

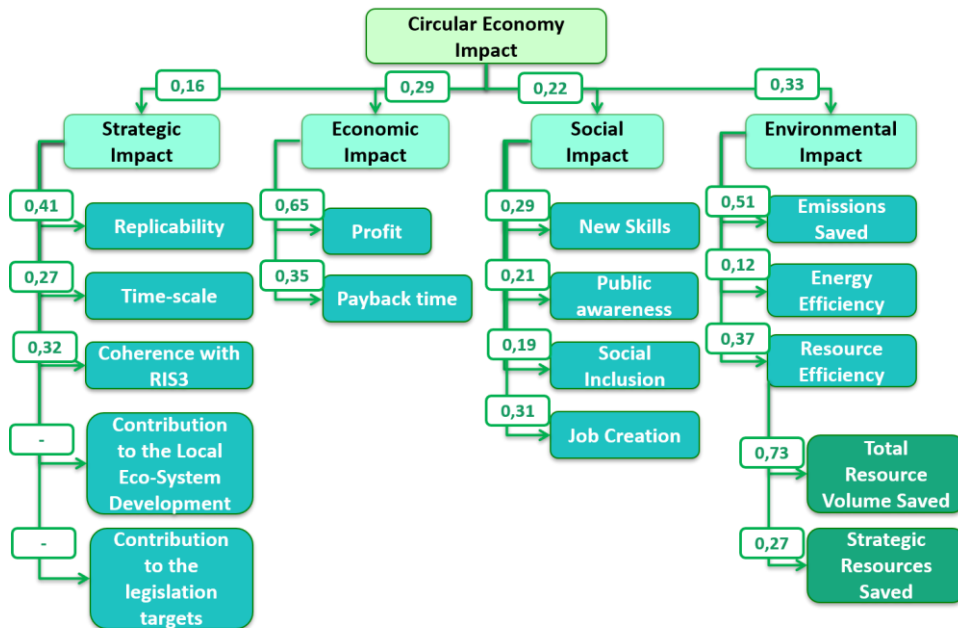


Figure 4 : Criteria Tree PP4

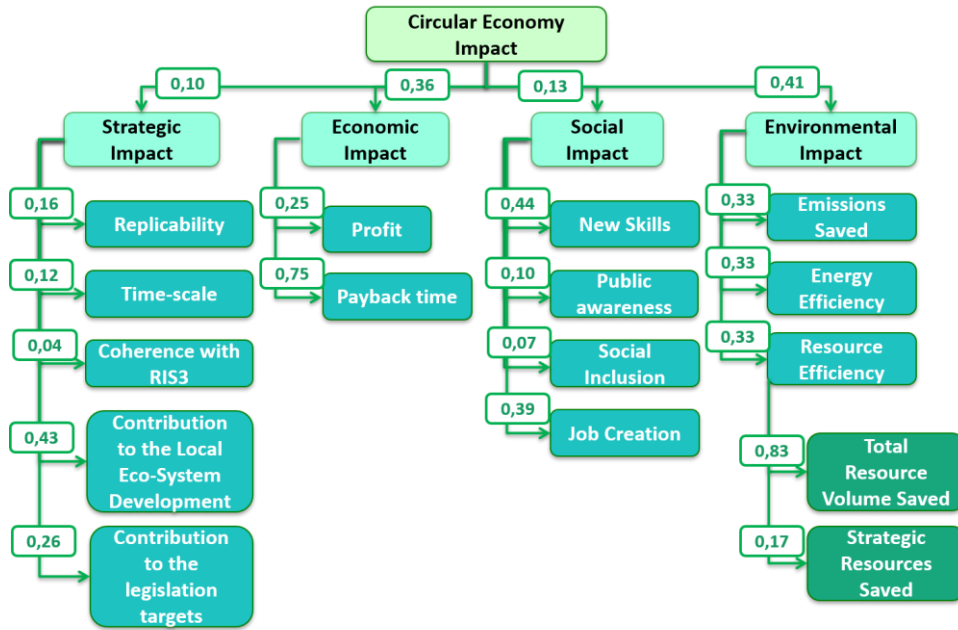


Figure 5 : Criteria Tree PP6

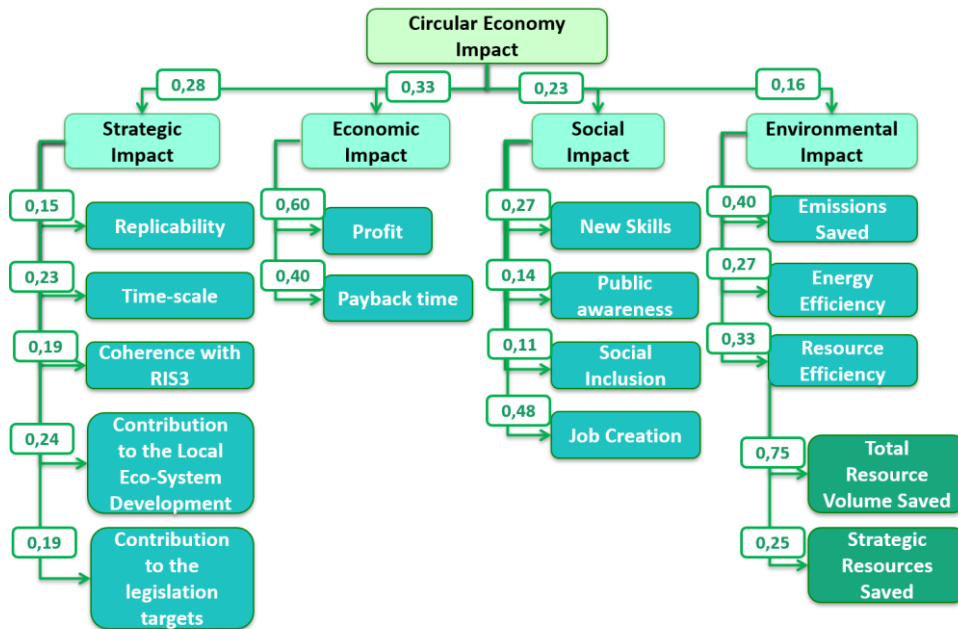


Figure 6 : Criteria Tree PP6

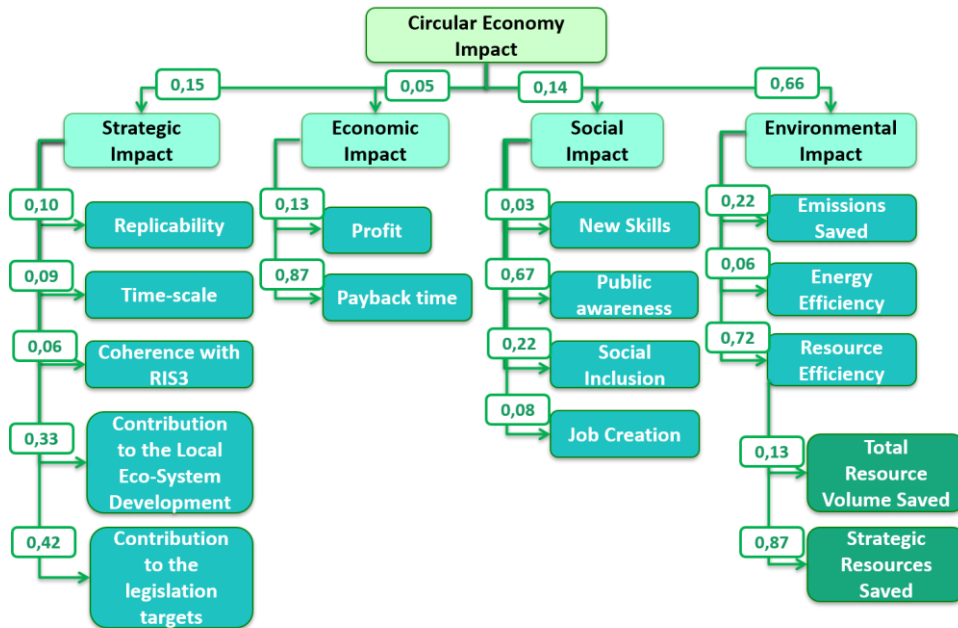


Figure 7 : Criteria Tree PP7

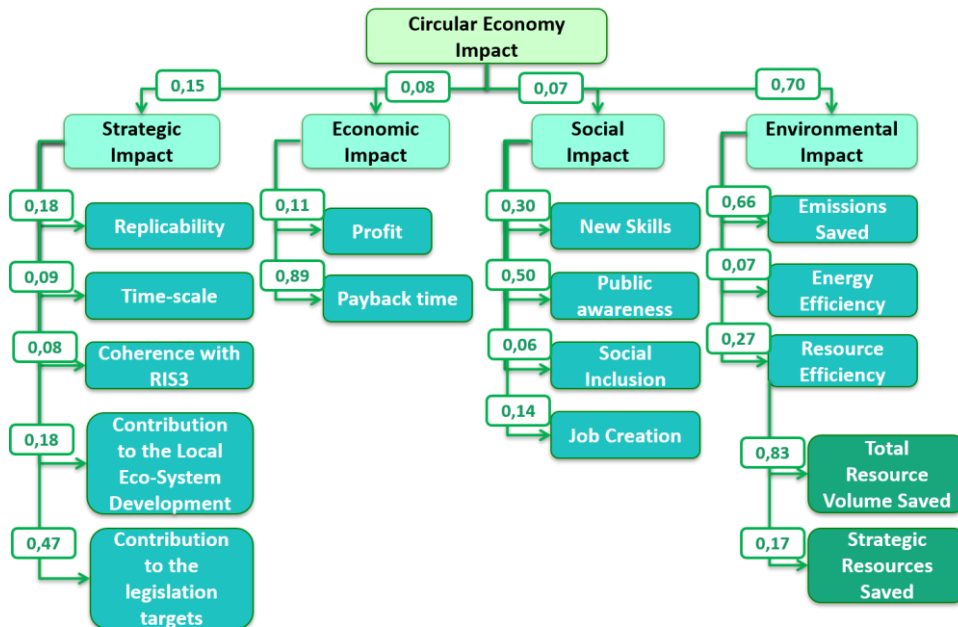
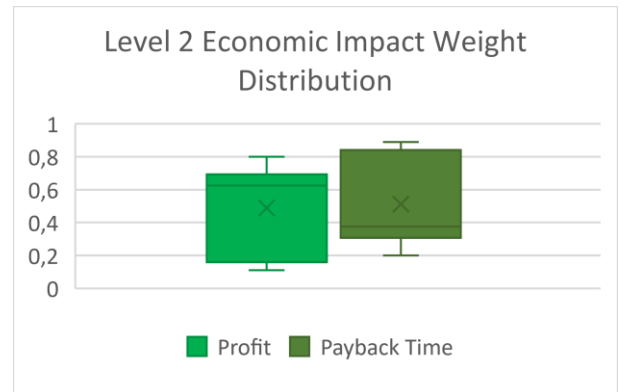
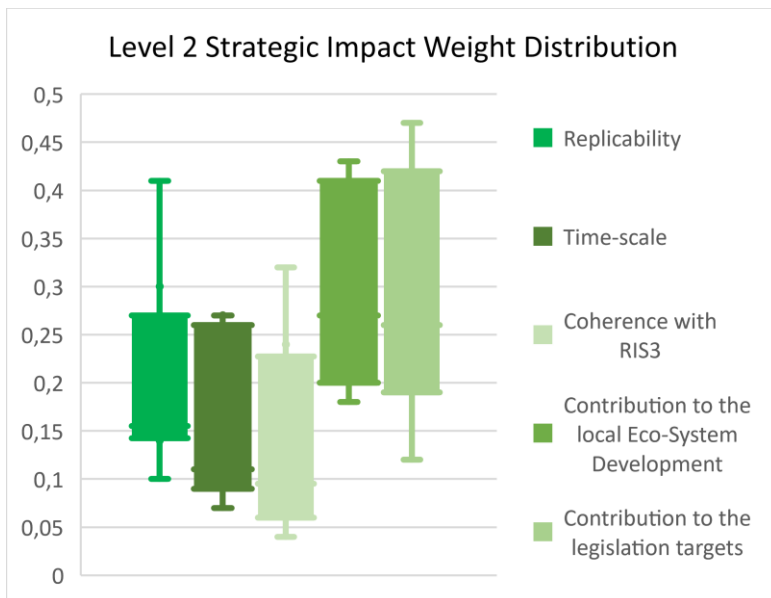
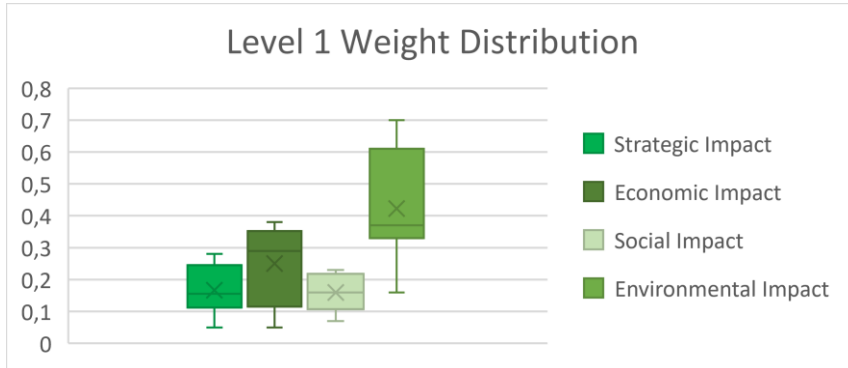


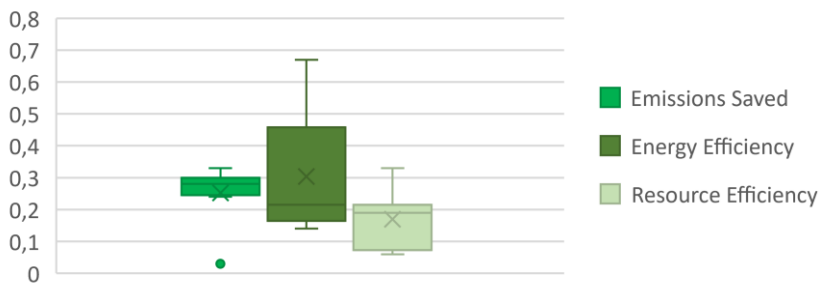
Figure 8 : Criteria Tree PP8



## ANNEXE 2 – Weight Distribution



Level 2 Environmental Impact Weight Distribution



Level 3 Resource Efficiency Weight Distribution

