6. STEP 6: SELECTION OF THE MCDA TECHNIQUE

The use of the Multi Criteria Decision Analysis (MCDA) techniques provides a reliable methodology to rank alternative RES projects in the presence of numerous objectives and constraints. Despite however, the large number of available MCDA methods, none of them is considered the best for all kind of decision making situations. There are no better or worse techniques, only techniques that fit better to a certain situation or not. Nevertheless different methods, when applied to the same problem using similar data, often produce different results. The main question is therefore, how to choose the appropriate MCDA methodology in RES decision making.

The main attributes under which the selected methods should be evaluated are:

- Degree of compensation allowed between the criteria
- Modeling the stakeholders / decision makers preferences
- Ease of use
- Ability to support a large number of decision makers – capacity of taking into account the conflicting point of view of different social actors
- Capacity to handle many criteria and alternatives
- Treatment of inaccurate and uncertain criteria – Treatment of uncertainty – Allowing the use of mixed information
- Interpretation of software parameters – Transparency

Quite a lot of MCDA methods realize some of the above listed requirements but no method is capable to incorporate all at the same time.

Finally, the PROMRTHEE II has been selected for the Greek case-studies. The selection of the above method was based on the following characteristics:

- It can take into account the participants subjective preferences
- It has the ability to support a large number of decision makers
- It can handle many criteria and alternatives
- The treatment of inaccurate and uncertain data is possible as well as the use of mixed kind of information
- From the implementation of the method the explicit ranking of the alternatives is provided. Moreover, the interpretation of all software parameters is possible which enhances the transparency of the procedure.