

# O.T3.1 - VALIDATED ISA PROCEDURE TO BE USED IN REEF 2W FEASIBILITY STUDY

Conducted By UCT Prague

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Italian National Agency for New Technologies,  
Energy and Sustainable Economic Development



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## Output factsheet: ISA Tool

Version 1

Project index number and acronym	REEF 2W
Lead partner	UCT
Output number and title	OT3.1 Validated ISA Procedure to be used in REEF 2W feasibility study
Responsible partner (PP name and number)	UCT and Veolia
Project website	<a href="https://www.interreg-central.eu/Content.Node/REEF-2W.html">https://www.interreg-central.eu/Content.Node/REEF-2W.html</a>
Delivery date	30.01.2020

### Summary description of the key features of the tool (developed and/or implemented)

The main aim of this output is the delivery of the validated ISA procedure described in D.T3.1.1, validated in D.T3.1.2 by application in 5 pilots and tailoring the framework conditions to specific case of each pilot. An expert group of involved partners evaluated results of ISA procedure.

ISA typically compares two scenarios:

- a) Status quo in evaluated WWTP
- b) Situation after REEF 2W technology application, using data of pilots

The general framework of ISA recommends to divide evaluation into the two sections:

The first section contains relevant indicators for the pre-assessment of sustainable REEF 2W solutions, whereas the second section provides a list of specific indicators that used for the MCDA. With the final list of indicators, a MCDA is carried out in order to determine the most sustainable option.

Finally Multi-criteria decision analysis (MCDA) is performed according to general procedure defined in D.T3.1.1.

### NUTS region(s) where the tool has been developed and/or implemented (relevant NUTS level)

NUTS 0: AT, CZ, DE, HR , IT

### Expected impact and benefits of the ISA tool for the concerned territories and target groups

The developed ISA-approach in the REEF 2W project follows a strategic assessment, covers multiple aspects of sustainability and integrates various assessment techniques: Energy Efficiency (EE) Environmental Assessment (EA), Urban Compatibility Assessment (UCA).

ISA allows to decision makers such as public authorities and their service teams a complex evaluation of innovative alternatives of wastewater and solid waste technologies and solutions. ISA is the tool enabling relatively easy and fast evaluation in all crucial aspects:

### **Sustainability of the ISA tool and its transferability to other territories and stakeholders**

Integrated Sustainability Assessment (ISA) is an approach to evaluate the complex and multidimensional matter of sustainability, simultaneously requiring a multicriterial approach.

The complex ISA evaluation is based on determining sustainability indicators definition and using of these indicators for calculation of final composite index that is integrating all aspects of ISA.

The sustainability of the ISA tool was confirmed sufficiently by application to evaluation of 5 REEF 2W pilots because in these cases the ISA procedure was successfully applied at very different framework conditions. For the same reasons we can draw the conclusion about excellent ISA tool transferability to other territories of Central Europe.

### **Lessons learned from the development/implementation process of the ISA tool and added value of transnational cooperation**

Outranking does not always produce clear conclusions; whereas analysis based on compensation, it is always conclusive. From a technical point of view, the compensation variant is also easier to implement. The most pragmatic way of designing the multi-criteria evaluation matrix is for the evaluation team to design scoring scales to all the evaluation conclusions, whether quantitative or qualitative. The multi-criteria evaluation matrix is then equivalent to the impact-scoring matrix. Usually the compensation method is used unless members of the steering identify a problem, which might justify the use of the veto system.

Therefore it was decided to use analysis by compensation, however for each case of innovative REEF 2W technology application must be identified if there are specific criterions which disqualify the technology to such extent that veto system needs to be used if they are ranked below certain threshold level.

### **References to relevant deliverables and web-links**

If applicable, pictures or images to be provided as annex

The O.T3.1 is closely related to general framework of ISA procedure described in D.T3.1.1, and validated ISA procedure described in D.T3.1.2.

The O.T3.1 is key output for the following Feasibility studies described in D.T3.3.1 - D.T3.3.5.