

Interactive comment on “WHAT-IF: an open-source decision support tool for water infrastructure investment planning within the Water-Energy-Food-Climate Nexus” by R. Payet-Burin et al.

Anonymous Referee #1

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With great interest I have read this paper dealing with burning 'decision support' related questions. Not being a specialist in this specific field, it is difficult for me to properly assess the real added value of the manuscript. I can say that it seems to be quite an impressive work, the manuscript is well organised (maybe the case study presentation and results could be put together), it reads well and is very well written. Title and abstract reflect well the content of the paper, references seem appropriate. After a very clear introduction including a nice overview of the state-of-the-art, authors present their general modelling framework as well as an application including user-based scenarios

C1

(please correct 'ReferenceXX' in the code availability section). The manuscript maybe rather long and I am wondering if the description of each modules (section 2) could be a supplementary material (?) in particular for Tables and Equations. As it is it may reads more like a report than a research article.

My main concern is the following; while there is a section discussing different scenarios I am missing some discussions on the sensitivity of each module to one of the other. Also the conclusion must be enhanced to reflect the large amount of work presented.

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C2