

Drink. Water Eng. Sci. Discuss., referee comment RC1  
<https://doi.org/10.5194/dwes-2021-11-RC1>, 2022  
© Author(s) 2022. This work is distributed under  
the Creative Commons Attribution 4.0 License.

## Comment on dwes-2021-11

Anonymous Referee #1

---

Referee comment on "Technical note: Graph-theory-based heuristics to aid in the implementation of optimized drinking water network sectorization" by Marius Møller Rokstad and Karel van Laarhoven, Drink. Water Eng. Sci. Discuss., <https://doi.org/10.5194/dwes-2021-11-RC1>, 2022

---

This is an interesting technical note on a topic of DWDS sectorization.

The DWDS sectorization problem is not well defined, this should be corrected by adding an appropriate problem statement. The same applies to the optimization problem formulation. Instead, the authors go straight into the presentation of the solution method based on EA and Graph Theory, which makes things hard to follow.

Literature review is missing important recent publications on the topic of DWDS sectorization. This is not the first paper on this topic nor the one that makes use of Graph Theory. Recent Vasilic et al (2020) paper can be used as a good starting point for improved literature review as it contains relevant references. Authors are encouraged to use the improved review to better position their approach within the existing body of literature. This will also help better justify the novelty of the proposed method.

Two real case studies are used to illustrate the methodology (The Hague and Trondheim). However, neither is well described in terms of the current situation/issues nor the corresponding sectorization motivation/goals. Instead, the authors dive straight into presenting results. The reader needs to understand first why the sectorization is needed (in both towns), i.e. what is hoped to be achieved with it. This can then be used to assess the success of sectorization.

There is no discussion section in the technical note. Yes, the space available is limited but it would be good to, briefly, discuss the pros and cons, especially the limitations of proposed sectorization methodology.

The methodology proposed is not compared to any of the existing sectorization methods. This should be ideally done to support various claims made (see e.g. two claims made in the last paragraph of the Conclusions section). Otherwise, these claims need to be toned down.

The conclusions section should also mention some future work.

## References

Vasilic, Z., Stanic, M., Kapelan, Z., Prodanovic, D. and Babic, B., (2020), "Uniformity and Heuristics based DeNSE Algorithm for Sectorisation of Water Distribution Networks", *Journal of Water Resources Planning and Management*, vol. 146, issue 3.