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Topic: Towards the Zero Emission Communities, Study case of the Community of Morbach

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Summary

The aim of the study to investigate how the Zero Emission concept can be realized on the community level and give the recommendations for achieving this objective by the optimization of the energy sector, especially switching from centralized energy supply to decentralized renewable energy systems.

In the first part, empirical survey of Zero Emission concept, Material Flow Management (MFM) and Circular economy, followed by the EU targets for the GHG emissions reductions are discussed. GHG emission reductions are considered as one of the most important issues of the nowadays society and around 30% of all emissions are originating from energy sector on the European Union level. Due to that fact, but also taking into account increasing depletion of fossil fuels, it is of big significance to develop and implement new concepts in energy sector which will contribute to emission reductions, but also at the same time give a new solution for a sustainable energy supply. Consequently, this kind of concepts should allow synchronized development of economic, environmental and social queries. Zero Emission strategy is one of them.

Through the Study case of the Community of Morbach, the study examines how the Zero Emission concept and its tool MFM can be introduced on the community level. In a detailed central section, the study provides the information of status quo in the community concerning the energy sector. Following, the energy efficiency and renewable energy potentials of the Community of Morbach will be introduced and analyzed.

In conclusion, the study argues which energy efficiency measures and renewable energy potentials will give the best contribution to the community in the scope of GHG emission reductions, but also creating the regional added value. This study anticipates to offer useful recommendations for other communities how they can by implantation of Zero Emission strategy and MFM contribute in GHG emission reduction but at the same time make a benefit on economic and social level by using and exploiting local resources and in that way increase regional added value.