



## Municipal climate action managers: How to quantify their impact

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### EXTENDED ABSTRACT

At the EEE 2021, we presented an approach on how policy instruments such as funding for climate action managers can be evaluated appropriately. We explored the question of which criteria and indicators beyond emission reductions are suitable and how these can be evaluated.

In our new study, we describe a methodology to quantify the contribution of climate action managers to reducing the greenhouse gas (GHG) emissions of their cities and municipalities.

### Introduction / background

Since 2008, the Federal Ministry for the Environment of Germany has been funding climate action managers through the Local Authorities Funding Guideline of the National Climate Action Initiative. Around 800 positions have been approved up to mid-2020, mainly in municipalities.

The implementation of an impact assessment for the funded climate action managers (CAM) is essential for the justification and content-related further development of the funding.

Of greatest interest to policymakers is the contribution of climate action managers to GHG emission reductions. However, this contribution is difficult to determine: the tasks of the managers and the measures they implement are too diverse; and determining the mitigation contributions of the individual measures is too time-consuming.

In the analysis presented here, we test a new methodology to determine the mitigation contribution of climate protection managers. We use funding data and conduct a comparison group analysis of municipalities with and without CAM, as well as a before-and-after analysis of funding drawdown in municipalities with CAM.

The presentation will take a brief look at the results and discuss the methodological approach.

### Methodology

Our methodological approach is based on a comparison group analysis: We compare the use of funding for the implementation of climate protection measures in municipalities with climate action managers and municipalities without climate action managers. This is because one of the main tasks of climate action managers is to obtain funding for the implementation of climate protection measures.

Secondly, we carry out a before-after-comparison: in municipalities with CAM, we also compare the use of funding before the establishment of the CAM, i.e. without CAM, and after it, i.e. with CAM.

We defined criteria to select two groups of municipalities comparable e.g. by size; the only difference between the groups is that the municipalities in one group have a CAM and those in the other group do not. We also retrieved data for 11 federal government funding programmes through which municipal climate protection measures are funded. In this way, we were able to compare four indicators: (i) number of climate protection measures implemented, (ii) funding volume obtained, (iii) financial volume of measures implemented, and (iv) GHG reductions triggered by the measures. In the before-after-comparison we compared the same indicators.

We determined the GHG reductions with the help of the funding lever (GHG reduction per funding euro), which were determined in the context of evaluations of the respective programmes.

We compared the municipalities according to size classes, as the results differed greatly between the different sizes. The following size classes were considered: small municipalities with up to 20,000 inhabitants, medium-sized cities with 20,000 to 100,000 inhabitants, and large cities with more than 100,000 inhabitants. Since there are hardly any large cities without CAM in Germany, only the before-and-after comparison in cities with CAM could be made for large cities.

## Results

The results of the comparison group analysis show that climate action management has a positive impact on the number and volume of funded projects as well as on the GHG reductions achieved. The impact of CAM is greatest in small municipalities. In the study period from 2008 to 2020 small municipalities with CAM implement 7.7 measures compared to 3.2 measures in municipalities without CAM, more than twice as many. They use € 0.3 t million in funding, which is almost five times as much, and achieve about 9,000 t GHG-reductions, which is 8,000 t more than in municipalities without CAM. Furthermore, the diversity of funding programmes used increases in municipalities with CAM. We were able to confirm these results in the before-after-comparison: the number of projects per year and the amount of funding increased by a factor of 1.8, and the GHG reductions even by a factor of 4 after the start of the CAM.

Climate action management thus enables municipalities to apply for funding, implement climate protection projects, including larger ones, and ultimately reduce GHG emissions. The CAM has a particular influence on the size of the projects: Municipalities of all sizes with CAM apply for larger projects than municipalities without. Here, the CAM seems to be necessary to manage the implementation of large projects.

## Conclusion & discussions

The analysis has shown that the promotion of CAM is effective and expedient. It was possible to estimate the effect on GHG reduction.

In the short term, this means that CAM should be further funded, with a special focus on small municipalities. However, funding has its limits, as not all municipalities can be funded, and the use of funding remains voluntary. Therefore, other policies are needed that make climate protection mandatory for municipalities and anchor it in the administrations, as well as provide the necessary financial resources and technical and organisational support to implement municipal climate action.

Methodologically, this approach broke new ground. The two methods used proved to be feasible and produced clear results. However, methodological limitations also became apparent during the process:

- The large differences in impacts between municipalities of different sizes had not been expected in this way, so the number of municipalities in some size categories was small.
- The availability of data was not given for some important funding programmes - these could therefore not be included in the analysis.
- The comparisons of the periods before and after the start of the CAM may be overlaid by time-dependent effects, such as (i) changes in the funding system in the programmes over time and a recently greater uptake of the programmes, (ii) stronger societal pressure to implement more climate protection measures through groups such as Fridays for Future; (iii) stronger political pressure through the adoption of more ambitious climate targets. These effects can influence the results.
- Furthermore, it was not possible to investigate how many CAM are active in the respective municipalities, how they are organised and other important aspects around the situation in the cities.

These aspects may influence the impact of CAM, but do not change the core message of the analysis.