

Municipal climate action managers: Evaluating the impact

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Abstract

Germany has approximately 11,000 municipalities which can make a significant contribution towards achieving climate targets. The Local Authorities Funding Guideline (LAG) of the German National Climate Initiative (NCI) has supported municipalities in designing and implementing climate action since 2008.

One of the LAG components comprises funding a dedicated position for a climate action manager in a municipality. Since 2008, more than 800 climate action managers have been funded in this way. Their tasks are very diverse. First, they implement investments in energy efficiency. Beyond that, they make a major contribution to establishing climate action in municipalities. Among other things, they organise and coordinate networks and expert groups within and outside their administration, they conduct public relations work, carry out educational projects, and solicit additional funding for various projects. However, evaluating their impact presents a challenge. This study contributes towards such an evaluation.

To determine the impact of climate action management, a set of criteria and indicators have been identified and a survey consisting of 46 questions belonging to 6 question blocks on the topic of municipal climate action was created. In this paper the questions in the following four blocks are evaluated: (i) Introductory, statistical questions, (ii) Climate action personnel in the municipality, (iii) Importance of climate action in administration and local politics, and (iv) Inventory of climate action activities.

The survey was conducted among all municipalities with more than 10,000 inhabitants in two German federal states: North Rhine-Westphalia and Brandenburg. The evaluation of the survey was carried out in three groups: 1) municipalities with climate action managers, 2) municipalities that once had a climate action manager, but no longer have one, and 3) municipalities that have never had a climate action manager.

The comparison of the results of the three groups shows that municipalities with a climate action manager perform better in practically all of the criteria surveyed than municipalities without a climate action manager: climate action has a higher priority, generally finds stronger support in municipal politics and greater attention also outside the environmental protection sector. There is more often a climate action committee within the administration, there is more often a financial budget available, more experts are involved in implementing climate action and more funding programmes are tapped into. Since the majority of cities in Group 3 are smaller cities with 10,000 to 20,000 inhabitants, it can be seen that cities of this size are less active in climate protection. These cities obviously need more or different support through funding.

The effectiveness of the LAG's "climate action manager" funding priority could be demonstrated. The funding of a position for the manager to implement climate action in the municipalities should therefore be continued. The funding programme should be further expanded to reach smaller municipalities in particular.

It could also be shown that personnel responsible for climate protection in the municipality is essential in order to become more active in climate protection. The survey results can therefore be used to demonstrate the

importance of climate action managers for municipal climate action and for the implementation of climate protection measures. The aim should be to increase the number of municipalities with climate action managers.

Introduction

In 2008 the German government established the National Climate Initiative (NKI)¹. With the NKI the Federal Ministry for the Environment promotes and initiates climate protection projects throughout Germany, thereby making an important contribution to achieving national climate protection targets. Its programmes and projects cover a broad spectrum of climate protection activities: from the development of long-term strategies to specific assistance and investment support measures. Since 2008, the National Climate Initiative has provided financial support to municipalities for the implementation of climate action measures, the most important funding instrument being the Local Authorities Funding Guideline (LAG). The NKI funds a multitude of projects and programmes, ranging from activities for raising energy-awareness and climate-friendly behaviour, the use of efficient technologies and renewable energy, to measures relating to all aspects of climate-friendly mobility.

From the beginning one of the most important funding priorities of the LAG was the creation of climate action concepts and action plans. The implementation of climate action concepts was also funded from the beginning, initially through external advisory support. Since the beginning of 2009, as an alternative to the advisory support by expert third parties, the employment of additional specialist staff, "climate action managers", has been funded for a maximum of three years. Since the end of 2010, external advisory support was no longer eligible for funding, only the hiring of a climate action manager.

In order to obtain funding for climate action managers, municipalities are required to submit an overall climate action plan or a plan for a specific sub-area (e.g. heat supply or mobility) that is not older than three years. Moreover, the highest decision-making body, e.g. the city council, has to decide on the implementation of the plan and the establishment of a climate action monitoring system. These are precisely the tasks of climate action managers. More specifically, they are expected to take over, among other tasks, technical preparatory work, technical support, information, training and networking activities as well as advice on the application of funding programmes for the implementation of the measures listed in the climate action plan. In addition to municipalities, districts, municipal associations, universities, churches, associations and "others", which are usually other forms of regional associations and companies owned by municipalities, are likewise eligible to apply.

From 2008 until the end of 2019, more than 800 climate action manager positions were funded by the Federal Ministry for the Environment. A total of 575 climate action managers were funded in cities and municipalities, while another 160 managers were funded in districts. As a rule, one staff position or less, e.g. half a position, per municipality is funded.

The evaluation of policy instruments, including the LAG, is essential for assessing their effectiveness and for their further development. The LAG is regularly evaluated as part of the evaluation of the entire National Climate Initiative. This evaluation is regularly commissioned by the Federal Ministry for the Environment and carried out by a consortium of scientists from different institutions. Four funding periods were evaluated until 2021: 2008 to 2011, 2012 to 2014, 2015 to 2017 and 2018/2019. Since the 2nd evaluation period, the evaluation of climate action management has been an integral part of the overall evaluation of the LAG. In the process, the methodology of impact assessment of climate action managers has been continuously developed: from the assessment of funding statistics and reports to expert interviews and comprehensive empirical surveys. (Kenkmann et al. 2017, 2019, 2020, 2021, Schumacher et al. 2013, 2014, 2016, 2019, Ziesing et al. 2012)

This paper presents the results of an analysis with the following research questions: Are municipalities with climate action managers more active in climate protection than municipalities without climate action managers? Can the effect of the climate action managers' work on the municipalities' climate policies and activities be determined?

In 2020, an extensive survey of municipalities was conducted as part of the evaluation to determine the impact of the work of climate action managers, regardless of whether they were (still) funded or not. The aim was, on the one hand, to assess the effectiveness of funding and, on the other hand, to collect arguments for (or against) the hiring of climate action managers for municipalities.

The present impact analysis focuses on climate action managers in municipalities.

Methods

¹ <https://www.klimaschutz.de/en>

A literature review preceded the development of the survey design in order to identify whether references from comparable research questions were available. By the time the methodology was developed there had been only a few studies related to this context. Amorim (2014), for example, explores the content of various Sustainable Energy Action Plans (SEAPs) required by the Covenant of Mayors at EU level². Progress of implementing the measures must be monitored and evaluated individually by the participating cities. A comparison of SEAPs of different cities within a higher-level evaluation process at EU level had not been undertaken at the time of the present study and positions comparable to those of climate action managers do not exist or are not visible.

Later a number of papers followed: Uitto (ed.) et al (2017) address a number of questions related to evaluations of climate change action for sustainable development, and Ortego et al (2018) put a focus on energy scenarios for cities to achieve environmental commitments. However, funding programmes for municipalities generally promote energy efficiency measures rather than strategic measures (e.g. Rossi et al. 2017), and there does not seem to be any comparable funding for staff positions so far, and accordingly no impact assessments either.

Furthermore, procedures for evaluating employees are known from business administration and human resource management. These procedures appear to be unsuitable for the impact assessment of municipal climate action managers, as they essentially focus on the comparison of quantifiable criteria within one company. Such quantifiable criteria do not exist for the performance of climate action managers. Their role in municipal administration is a new and exceptional one as their tasks cut across all the other domains in the administration. While their main tasks are defined as implementing measures from the climate action plan and monitoring this implementation, their specific tasks are very diverse. Measures to be implemented are manifold, ranging from investment activities to public relations work and campaigns, to name but a few. Moreover, the context in individual municipalities is very varied, and climate action managers have a cross-cutting role which sets them apart from regular structures in the administration and does not allow for a comparison with other employees.

Survey design

The survey was subject to time and capacity constraints, as it had to be fully implemented within the processing period of the evaluation, i.e. within a few months with relatively few resources. Therefore, a compact survey design was chosen, which could be implemented quickly. The survey was conducted as an online survey. A questionnaire was designed that collected detailed information in 46 questions, which could be assigned to six content areas. Numerous findings and preliminary work on the topic of municipal climate protection and municipal climate action management gained in previous evaluations and in various other studies were incorporated into the formulation of the questions (Kenkmann et al. 2017, 2019, 2020, 2021, Schumacher et al. 2013, 2014, 2016, 2019, Ziesing et al. 2012).

The aim was to examine in a criteria-based analysis whether differences in the intensity of climate action activities between municipalities with and without climate action managers could be demonstrated. Two main criteria were defined for the analysis: 1) the importance of climate protection in the administration of the municipality, and 2) the extent of climate protection policies and activities, respectively, in the municipality. In the municipalities with climate action managers, information was also collected on the concrete activities of the managers. For further developing the LAG, questions were also asked about improving/supplementing the funding programme. Altogether, the 46 questions can be assigned to the following blocks of questions:

- 1) Introductory, statistical questions (3 questions)
- 2) Climate action personnel in the municipality (6 questions)
- 3) Importance of climate action in administration and local politics (11 questions)
- 4) Inventory of climate action activities (14 questions)
- 5) Tasks of the climate action manager (for municipalities with climate action managers only) (8 questions)
- 6) Questions about funding from the LAG (4 questions)

² <https://www.covenantofmayors.eu/en/>; The Covenant of Mayors is the world's largest movement for local climate and energy actions. It was launched in 2008 in Europe and brings together thousands of local governments voluntarily committed to implementing EU climate and energy objectives. Participating municipalities have to create and implement a sustainable energy action plan (SEAP) and to submit monitoring reports.

The survey was conducted from July to mid-September 2020. From the beginning, it was planned to evaluate the questionnaires in comparison groups: municipalities with climate action management and municipalities without climate action management.

Selection of the sample

In order to obtain a high response rate, the responsible contact persons in the cities were to be approached personally. Therefore, in most cases it was necessary to research the addresses of the contact persons manually. This limited the number of municipalities to be contacted and for capacity reasons the survey could not be conducted to all German municipalities. In order to achieve valid results, the survey was carried out as a full survey in two federal states, which were to be exemplary for the whole of Germany. It was also decided to only survey larger municipalities with 10,000 or more inhabitants. It was expected that in this size range the "density" of climate action managers would be high enough to get a sufficient number of responses from municipalities with climate action managers. In the end, all municipalities with more than 10,000 inhabitants in two federal states were surveyed: North Rhine-Westphalia and Brandenburg.

With these federal states, both an eastern and a western German federal state are represented. In addition to prosperous, populous agglomeration areas (or parts thereof), both states have cities and rural regions that are affected by structural change or are structurally weak³. It is therefore assumed that the cities in these two federal states with their specific characteristics represent a good cross-section of German cities and municipalities of the size mentioned

The survey was conducted as an online survey. Non-responding municipalities were called and asked personally to participate in the survey. This made it possible to achieve a very high response rate overall. A total of 423 municipalities received an invitation to participate in the survey. In Germany, there are 1,397 cities with more than 10,000 inhabitants (as of 31 December 2019). With 423 municipalities, 30 per cent of German cities with more than 10,000 inhabitants were contacted (table 1).

Table 1. Sample size.

	Number of municipalities with more than 10,000 inhabitants	Share of German municipalities questioned	Questionnaire completed in full	Share
Germany total	1,397	100 %		
North Rhine Westphalia	352	25,2 %		
Brandenburg	71	5,1 %		
total	423	30,3 %	265	62,6 %

Interpretation of the survey

265 municipalities completed the questionnaire in full, resulting in a total response rate of 63 percent. Originally, it was planned to evaluate the responses in two groups: cities with climate action managers and cities without. During the evaluation of the responses, it became apparent that there is a third group. So the answers were assigned to these three groups:

Group 1: Municipalities with climate action management position, regardless of whether funded or not.

Group 2: Municipalities that once had a climate action management position, regardless of whether it was funded or not, but no longer had one at the time of the survey.

Group 3: Municipalities that had never had a climate action management position at the time of the survey.

An evaluation of the responses per federal state was not planned and was not carried out. For the impact assessment of the climate action managers, the answers to question blocks 1 - 5 were evaluated. This paper presents selected results of blocks 1-4.

Results

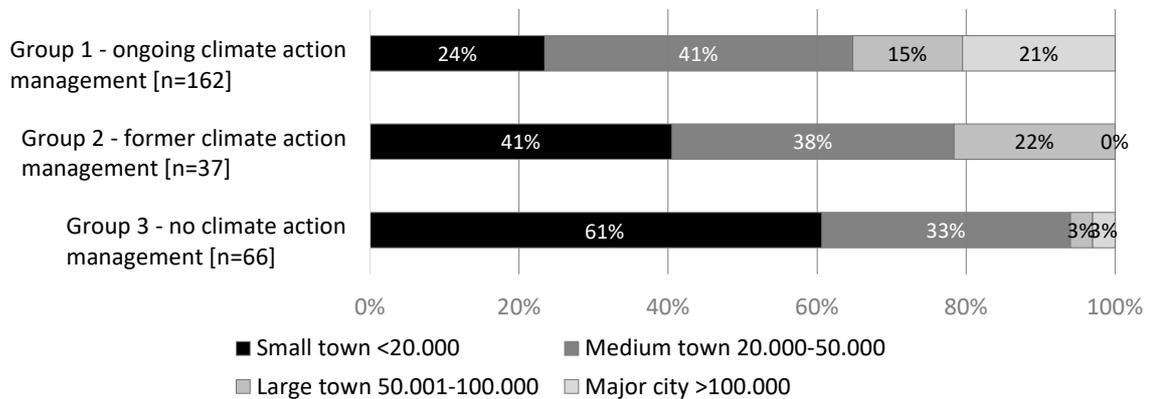
Size and climate action personnel of the municipalities

Of the 265 completed questionnaires, 162 were classified as group 1, 37 as group 2 and 66 as group 3. A comparison of the size of the municipalities shows that the share of smaller cities increases clearly from group 1

³ Structural change refers to a decisive change in economic structures. Indicators are regional income, regional labour market development, labour force development and infrastructure endowment.

to group 3. (Figure 1)

How many inhabitants does your municipality have?



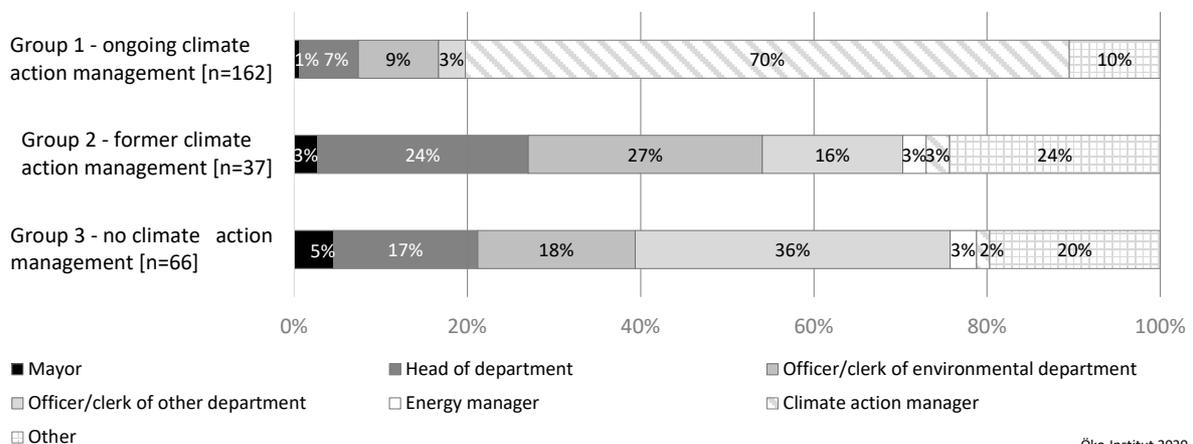
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Figure 1. Size of the municipalities surveyed

This shows that municipalities without climate action management are generally smaller cities, whereas large cities more often have a climate action manager. In terms of assessing the results from the survey, differences between the three groups may be influenced by the size of the municipalities. However, both are probably true: municipalities are more likely to have no climate action management if they are smaller and are therefore often less active in climate protection.

Figure 2 shows who filled in the questionnaires in the municipalities surveyed. In the municipalities with climate action managers, these are mostly the climate action managers themselves, while in the municipalities without managers these are often department heads and clerks. This might be important, because the climate action managers in group 1 practically evaluate their own work.

What is your function within the administration?



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Figure 2. Position of persons who completed the survey

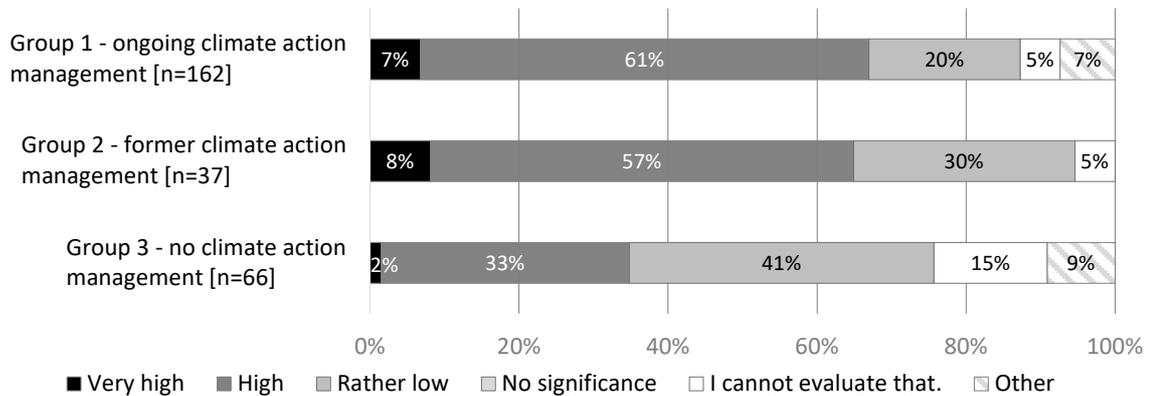
Importance of climate action in administration and local politics

When asked about the general relevance of climate protection in their administration, the respondents in group 1 (municipalities with ongoing climate action management) mainly state that climate protection has a high or very high priority in the administration; in the municipalities in group 2 (municipalities with former climate action management), the figure is almost the same, while in group 3 (municipalities with no climate action management) it is significantly lower. "No issue" was not chosen as an answer at all. (Figure 3) This statement was substantiated by questions on related decision-making, the definition of a specific climate action target and the availability of a related budget.

Hence, the next question asked whether resolutions that serve climate protection find majorities in the municipal council and are passed. The answers show that in a clear majority of group 1 and 2 climate action is supported by the city council. In group 3, on the other hand, this proportion is significantly smaller. (Figure 4)

Municipalities without a climate action manager are also less likely to have a climate action target. The difference between the groups is very clear. Here, too, group 2 performs almost as well as group 1 (Figure 5). Next, the question was asked whether the achievement of the climate target, if one has been adopted, is verified by regular monitoring. This is also far more common in group 1 where 9 out of 10 municipalities do so at least partially. In group 3, only every fourth municipality with a climate target monitor its achievement and every third state that they do this partially. (without figure)

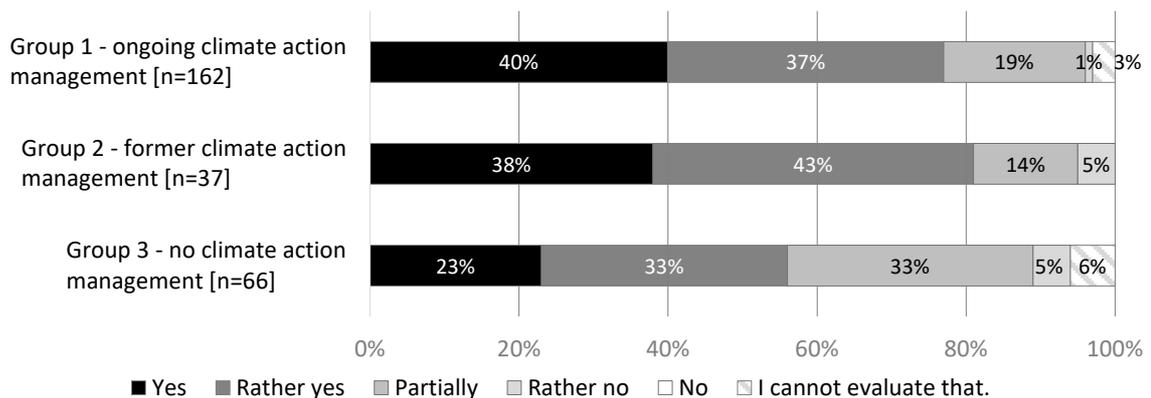
How would you rate the significance of climate action in your administration?



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Figure 3. Importance of climate protection

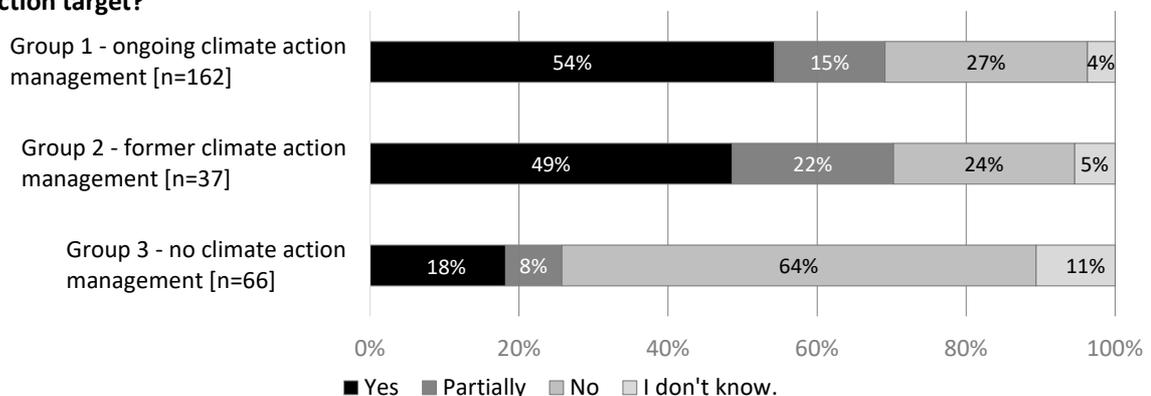
Does your city/municipal council support and pass resolutions relevant to climate action?



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Figure 4. Support of the municipal council for climate protection

Has your city/municipal council decided on a concrete climate action target, i.e. an emissions reduction target?

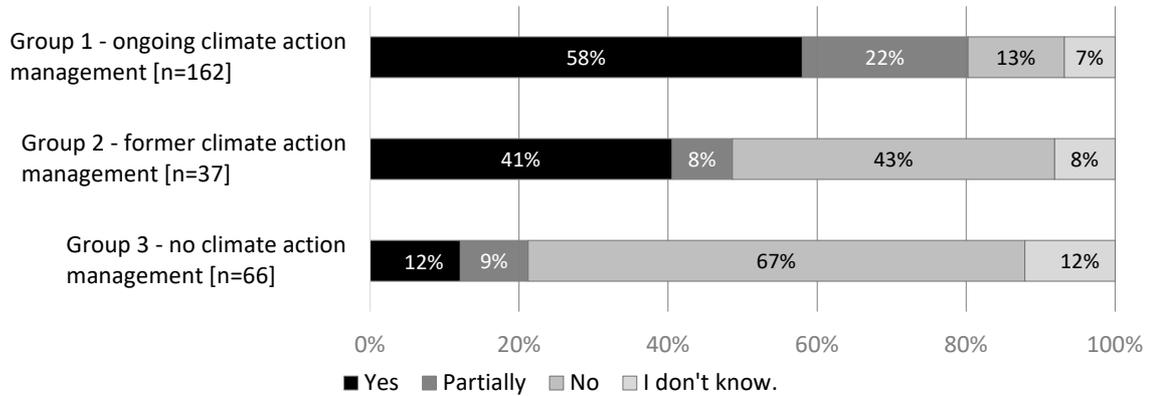


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Figure 5. Resolution of the climate target by the municipal council

Another indicator for the significance of climate protection in the administration is the existence of an annual budget for climate action tasks. The answers to this question show serious differences: Here, too, municipalities with a climate action manager are far more likely to have a budget at their disposal than those without.. (Figure 6) The available budget is also often higher in municipalities in group 1 than in group 3 (without figure).

Does your administration have an annual budget for climate action tasks?

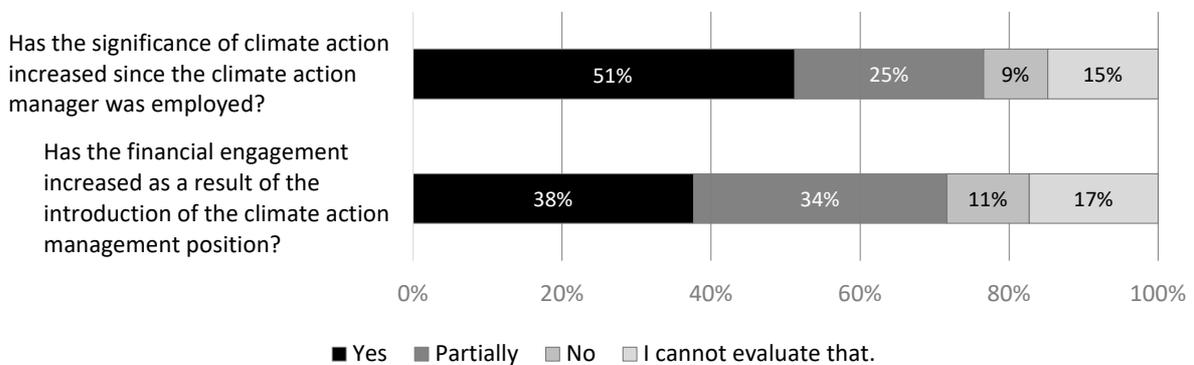


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Figure 6. Annual budget for climate action tasks

For the interpretation of the survey results, it is important to crosscheck whether the answers are the effect of climate action management or whether, conversely, municipalities with an already greater commitment to climate protection have a climate action management position. Figure 7 shows, that with the employment of the climate action manager, both the importance of climate protection and the financial commitment increases significantly. Even if municipalities with managers already show a greater commitment to climate action before they hire a climate action manager, it increases substantially once they are hired.

Group 1 only - Municipalities with climate action management [n=162]



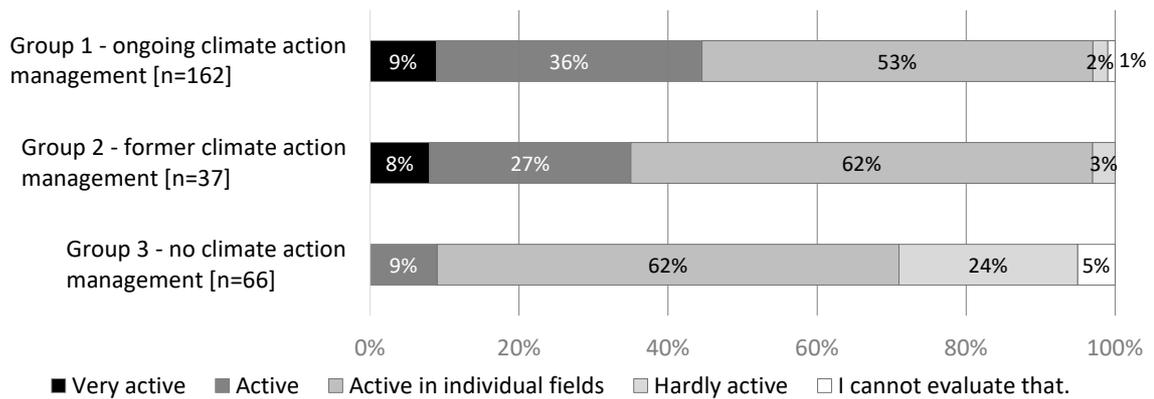
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Figure 7. Direct effect of climate action management on climate protection status and commitment

Inventory of climate action activities

Municipalities with climate action management (group 1) are generally more active when it comes to implementing climate action measures than municipalities without management (group 3) The share of municipalities that are hardly active in climate protection is quite high in group 3, while it is very low in group 1 and 2. In general, the majority of administrations in all three groups are only active in individual areas with regard to the implementation of climate protection measures (Figure 8).

How do you rate your administration in terms of implementing climate protection measures?



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Figure 8. Activity of the local administration with regard to climate protection

The next question asked whether climate protection is also addressed outside the environmental department. In municipalities with ongoing or former climate action management, every third municipality does address climate protection in other departments. In group 3 this is with only every fifth municipality less often the case.. However, the vast majority of all groups address climate protection “partly” in other departments, although the extent is not known. (without figure)

Projects in municipalities with climate action management are significantly more often examined for their effects on climate change than in municipalities without climate action management. Three times as many municipalities with ongoing climate action management assess all projects for their climate impact than those without. (Figure 9)

Are municipal projects assessed in terms of climate action or their impact on climate protection?

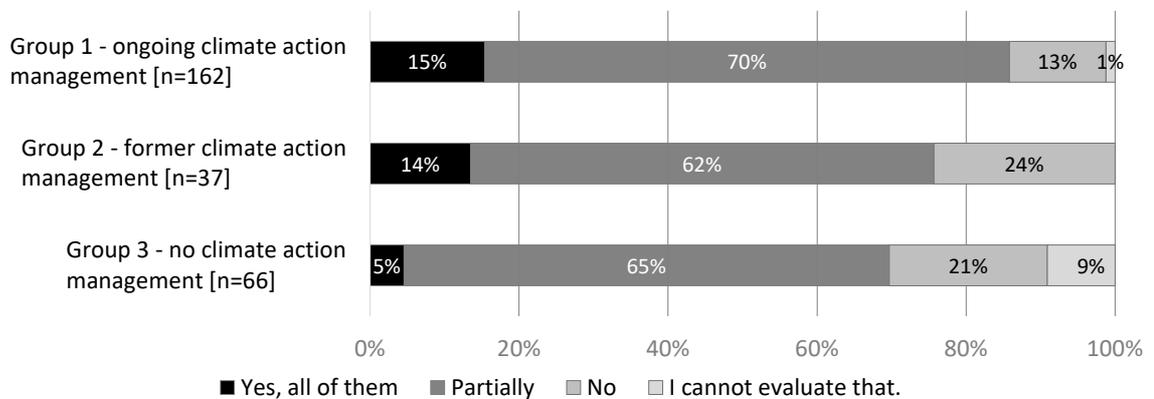
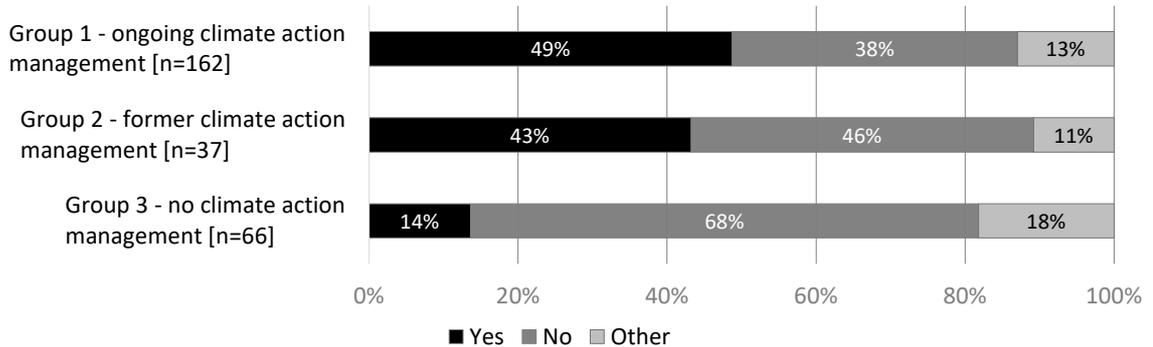


Figure 9. Assessment of municipal projects for their impact on climate protection

Another indicator for the significance of climate protection in the administration is the existence of a climate action committee. Municipalities with ongoing or former climate action management are more than three times as likely to have such a committee than municipalities without climate action management. (Figure 10) Under "Other" it is often mentioned that an EEA (European Energy Award⁴) energy team exists.

⁴ The European Energy Award, or eea for short, is a European quality certificate for the sustainability of municipalities' energy and climate protection policies, which is based on an environmental management system. <https://www.european-energy-award.org>

Does the municipal administration have a panel (e.g. an interdisciplinary working group on climate action, an advisory board, a steering committee) that deals with climate action topics comprehensively?



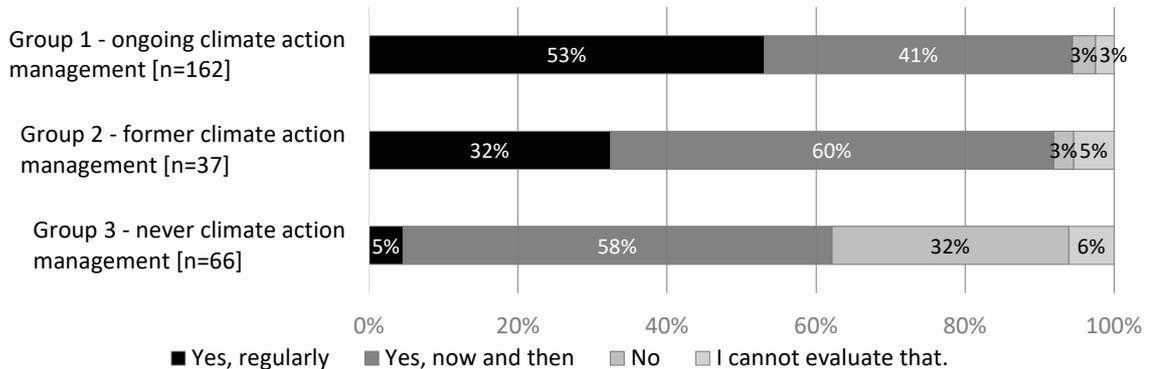
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Figure 10. Climate action committees in the municipalities

There are very clear differences between the groups with regard to information and participation of civil society and the professional public. While in groups 1 and 2 both civil society and the professional public are involved in climate action, in group 3 this happens mostly occasionally or not at all.

In group 1, civil society is involved significantly more often than the professional public. However, participation in groups 1 and 2 is also rather irregular and not firmly established. In group 3, in almost one third of the municipalities there is no participation at all. (Figure 11 and 12)

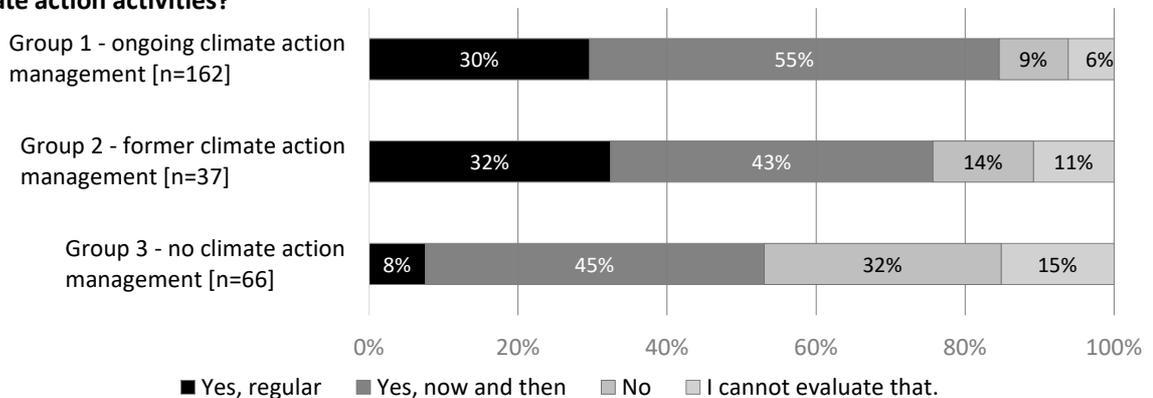
Is the civil society (e.g. citizens, associations, companies) informed or involved in the topic of climate action and what they can do for climate protection? (e.g. in events, newsletters, websites)?



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Figure 11. Information and participation of civil society

Is the professional public (e.g. associations, environmental groups, regional experts) involved in climate action activities?



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Figure 12. Involvement of the professional public

Finally, the effect of climate action management on the use of funds from federal climate protection and energy efficiency funding programmes was surveyed. Municipalities with a climate action manager tap into such funding programmes significantly more often and the knowledge of the programmes is significantly higher in this group than in municipalities without climate action management (group 3). In addition, most of the municipalities in group 1 have a staff member who is responsible for applying for funding to implement energy efficiency or climate protection measures or who supports other colleagues in doing so. In group 3, this is the case in only half as many municipalities. If there is a person in the administration who is responsible for obtaining funding, it is usually the climate action managers themselves, sometimes also "administrators". 13 times a funding management or a funding staff unit is mentioned, twice the office of the (Lord) Mayor and once the economic development department. (without figure)

Discussion

The survey yields the clear result that municipalities with climate action management are more active in climate protection or, conversely, that municipalities need (at least) one climate action manager for an active and successful climate protection policy. In both identified criteria, 1) the importance of climate protection in the administration, and 2) the extent of climate protection policies and activities, respectively, municipalities with ongoing climate action management perform significantly better than municipalities without climate action management. Municipalities with former climate action management also often perform better than municipalities without.

The results are possibly distorted by two aspects: Firstly, the size distribution of the municipalities in the comparison groups is different: in group 3, municipalities without a climate action management position, an above-average number of smaller cities with populations below 20,000 are represented. This might lead to a bias. However, this risk is considered to be rather low, as there are no indications that the results could be distorted in any direction. Also in group 2 there are more small towns with less than 20,000 inhabitants than in group 1. This fact rather suggests that smaller cities have more difficulties in creating positions for climate action managers. The reasons for this were not explicitly asked but should be the subject of further research. However, there are indications that the design of the funding programme that supports the employment of climate action managers is less suitable for smaller cities than for larger ones. Thus, group 3 reflects the conditions in small towns without climate action management, which is a very helpful piece of information to tailor funding programmes to smaller cities.

Secondly, another discussion point is that in group 1 the majority of all questionnaires were filled in by climate action managers themselves, and therefore a bias in the results is possible. Experience has shown that a written survey of municipalities on the topic of climate action will mainly be completed by the climate action manager. If such a person is available in the municipality, the corresponding enquiries are usually forwarded to this person. However, it is estimated that there is at most a slight distortion of results. Also, the bias can go both ways, as climate action managers could rate their municipality better as well as worse than other, possibly more objective, stakeholders would. In municipalities without climate action managers, the survey is predominantly filled in by relevant expert personnel, which in principle can also lead to distortions. In addition, the fact that group 2 was not filled in by climate action managers (as there were no managers anymore), but clearly more positive effects in the chosen criteria were measurable than in group 3, speaks against a strong bias.

More important is the question of working hours of the climate action manager, and the total number of staff positions available for climate action management, respectively. There is no rule for the number of positions or for working hours: according to evaluations (Kenkmann et al. 2021), this is independent of the size of the municipality. However, the available working time is essential for the climate action manager's output to be achieved. The larger the job volume or the more staff is available, the greater the impact should be. However, the information on the number of positions was not collected in the survey, since the relationship between the number of positions for climate action management and the scope of climate action activities was not the subject of this study.

Another important aspect is where the position of a climate action manager is located within the administration. For example, whether the climate action management belongs to a specialised department, such as the environment or building department, or whether there is, for example, a staff unit at the mayor's office. This information was not collected in the survey either. From previous analyses (Kenkmann et al. 2019) it is known that it depends on many factors where the climate action management should best be located. These essentially include the degree of support from the head of the office if it is attached to a specialist department. The advantage of being linked to a department is that there is better contact with the specialised staff in the administration and measures can be implemented "bottom up". The connection to the mayor, on the other hand,

implies a greater scope of design, but this is often perceived as "top-down" and in part less supported by the specialised departments. Ultimately, depending on the size of the municipality, both are needed: "bottom-up" implementation in the department and the scope for action through a staff unit at the mayor's office. Statistical surveys on this are not available, however. The statements made are based on individual statements, interviews and workshop results.

However, the above limitations are not such as to prevent an evaluation of the impact of the climate action managers' work. A more comprehensive survey design could attempt to address the above-mentioned open questions in the future. There are gaps in terms of more quantifiable impacts of the managers as well. Currently, there is no uniform system that better enables the comparison of different aspects of municipal climate action management. The diversity of the municipalities is a barrier to this. The number of measures implemented is not a comparable indicator, as the definition of a "measure" varies greatly from one municipality to another. Nevertheless, an evaluation of the action plans drawn up would allow statements to be made about their quality. A detailed evaluation of implemented measures could allow further statements. This should be the subject of future analyses.

Another research question to be considered in the future could be about the different position of climate action managers within the administrative structures. The correlation between the size of the municipality, the number of climate protection manager positions and the climate protection activities should be investigated in the future, too.

Conclusion

This analysis allows the evaluation of the impact of climate action managers in municipalities. Several aspects of climate action policies in municipalities with and without climate action manager are compared. The impact of the work of the climate action managers on the climate policy and activities of the municipalities can be demonstrated on the basis of selected indicators.

The comparison of the three groups shows that municipalities with a climate action manager perform better than municipalities without in practically all the climate protection aspects surveyed. In municipalities with climate action management, climate action has a higher priority, generally finds stronger support in municipal politics and greater attention also outside the environmental protection sector, there is more often a climate protection committee within the administration, there is more often a financial budget available, more experts are involved and more funding programmes are used.

Even though it is likely that climate protection commitment in the municipalities with climate action manager was also higher before the climate action manager was employed than in those without, because otherwise they would not have hired one, it can be deduced with certainty that the climate action managers significantly increase the municipality's climate protection activities. Or, to put it the other way round, the municipalities need climate action managers to become better and more active in climate protection matters.

The results of the study also show that municipalities that once had a climate action management position but did not make it permanent still perform better in almost all aspects than municipalities that never had one. This shows that the former climate action management still has an effect, even if the personnel responsibility is no longer there. But it is unclear how long this positive effect can last.

The survey results can be used to demonstrate the importance of climate action managers for municipal climate policy and action. The effectiveness of the funding could be proven. The aim should therefore be to increase the number of municipalities with climate action managers, the funding should be continued. Smaller cities with less than 50,000 or less than 20,000 inhabitants often do not yet have a municipal climate action manager. This should be addressed more strongly by the funding programme.

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