



SUSTAINABLE ENERGY AND CLIMATE CHANGE IN MUNICIPAL IDPS

2017–2018

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EXECUTIVE SUMMARY

The impacts of climate change are often noticed on a local level, and municipalities are the first to see these effects and are expected to react. Thus, there is a growing consensus that organised local government has a crucial role to play in reducing the vulnerability of citizens to the impacts of climate change.¹ The National Climate Change Response Policy of South Africa shares these views, and local government has been given the task of contributing to efforts to adapt to and mitigate climate change.

This report documents the results of a study to determine how many municipalities have incorporated sustainable energy and climate change elements and themes into their planning. Published in 2017, the integrated development plans (IDPs) of the 205 local municipalities, 44 district municipalities and eight metros were analysed with an indicator called the Top Green Planner (TGP). Similar studies were conducted in 2012 and 2015;² however, an enlarged scope was used for this study in order to capture more climate change projects being implemented by local municipalities, for example in the areas of water demand management and conservation or green transport.

RESULTS OF 2017

- The study showed that the number of Top Green Planners (TGPs) increased from 22% (60 out of 278) in 2015 to 30% (77 out of 257) in 2017 when a similar scope was used.
- When a wider scope of projects is applied, the number of TGPs increases to 46% (117 out of 257).
- Sustainable waste management and energy efficiency projects were the most prevalent among IDP plans, followed by sustainable water and renewable energy projects.

Further detailed analysis revealed possible factors affecting a municipality's attempt to attain TGP status. The ability of a municipality to institutionalise climate change within its structures was seen to lead to greater success in planning projects of this nature. Despite the very encouraging results, support to municipalities for better planning on climate change-related issues is still relevant and should target specific characteristics of a municipality.

The lack of financing mechanisms for local government to directly access funding for sustainability-focused projects is a serious concern and needs to be addressed. Assistance from external parties, through support programmes or partnerships with provincial government and other institutions, plays a large role in municipalities' planning for climate change adaption and mitigation.

This study, conducted by GIZ in partnership with SALGA, aims to understand the intent of municipalities to combat climate change and the plans they have put in place to do so.

1 South African Local Government Response to Climate Change (2016) <http://www.sacities.net/wp-content/uploads/2016/PDF/SA%20Local%20Government%20Response%20to%20Climate%20Change%20-%20March%202016.pdf>

2 Sustainable Energy and Climate change in Municipal IDPs (2015) http://www.cityenergy.org.za/uploads/resource_398.pdf

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CLIMATE CHANGE ACTION IN SOUTH AFRICA

NATIONAL RESPONSE TO CLIMATE CHANGE

South Africa displayed its dedication to reducing the effects of climate change during the 21st Conference of the Parties (COP21) by endorsing the globally accepted Paris Agreement for accelerated action on climate change. This agreement holds legal force and requires that parties deposit Nationally Determined Contributions, which serve as the yardstick by which nations are held accountable to implementing the Paris Agreement. South Africa's commitments include the reduction of emissions, where greenhouse gas emissions are set to peak (2025), plateau (2025-2035) and decline (2035 onward). South Africa has also committed to build the necessary institutional capacity for climate change response planning and implementation (2020 to 2030).

National government took action against climate change long before COP21, with the National Climate Change Response Policy (NCCRP) being gazetted in 2011. The NCCRP represented a policy framework within which all spheres of government and economic sectors would coordinate efforts towards realising South Africa's climate change mitigation and adaption efforts.

The document outlines the importance of cooperative governance and emphasises the roles of each sphere of government.³ National government takes the lead in formulating climate response policy, amending and promulgating legislation to deal with climate change, and establishing and administering



National Climate Change Response, White Paper, 2011

the regulatory framework for managing emission reductions. National departments are expected to integrate climate change into their policies and programmes.⁴

PROVINCIAL RESPONSE TO CLIMATE CHANGE

Provincial government plays a similar role to national government in responding to climate change; however, it is more focused in the region. A climate change response strategy should be developed by each province

It is important to showcase the strong intentions by municipalities to become more sustainable, as well as the wide range of projects being planned to achieve this.

³ Creating an enabling environment for enhancing access to global climate finance mechanisms and leveraging internal resources: Discussion Paper for NCOP Local Government Week (Chauke, 2018)

⁴ National Climate Response White Paper 2011 https://www.environment.gov.za/sites/default/files/legislations/national_climatechange_response_whitepaper.pdf

that will assist in operationalising the NCCRP within the region. Provinces are expected to integrate adaption and mitigation strategies within their departments and coordinate their efforts. Provinces should also provide further assistance to municipalities where it is needed. This can include policy and strategy development, knowledge-sharing and collaboration with implementing projects.

LOCAL GOVERNMENT RESPONSE TO CLIMATE CHANGE

Role of Local Government

Municipalities are mandated to provide essential services to citizens within their jurisdiction and need to ensure that this is done in a sustainable manner. Local leaders also have a responsibility to listen and understand the problems facing communities, while also steering them towards a brighter future. The NCCRP has recognised the crucial role municipalities will play in developing climate-resilient communities, practising energy, water and waste management as well as providing disaster management support.



Let's Respond:
*A guide to
integrating
climate change
risks and
opportunities
into municipal
planning*

Sustainable energy and climate change issues are beginning to gain momentum within municipal projects as local government is responding to global, national and local imperatives. Municipalities have begun to see the many advantages, apart from direct climate change benefits, which projects of this nature can have, such as job creation, better living conditions as well as financial savings in their own operations. Sustainable living is able to provide many people with a better quality of life.

For the citizens, local government officials and councillors of many municipalities, however, the effects of climate change are unknown. Many would like to implement global warming prevention initiatives but lack the financial and human resources to do so.

Support to Local Government

In 2016, the Department of Environmental Affairs (DEA) in partnership with the South African Local Government Association (SALGA) and GIZ began implementing the Local Government Climate Change Support Programme (LGCCSP) across the country. One of the strategic objectives of the programme was to support the mainstreaming of climate change adaptation into municipal planning processes and documents, such as the IDPs discussed in Section 3. The programme provided support to develop climate change response strategies within district municipalities, with local municipalities within the district providing inputs into the plan. Capacity-building workshops were provided to municipal councillors and officials in line with the 'Let's Respond' to climate change toolkit.⁵

⁵ Let's Respond Toolkit http://www.cityenergy.org.za/uploads/resource_143.pdf

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MUNICIPAL INTEGRATED DEVELOPMENT PLANS (IDPs)

IDPs are the most important planning documents for South African municipalities. Through its IDP, a municipality identifies development priorities; formulates a vision, objectives and strategies; identifies projects; and aligns resources with priorities. IDPs establish a framework for economic and social development and define a municipality's plans for land use, development of infrastructure and services, and environmental protection. This document takes priority over all other plans that guide local development and are intended to integrate national and provincial priorities along with community needs.

The Municipal Systems Act (Act No. 32 of 2000) requires municipalities to adopt a five-year IDP that is reviewed annually. After local government elections, the new council has to decide on the future of the IDP. It can either adopt the existing IDP or develop a new one that takes existing plans into consideration. Adopted IDPs have to be submitted for assessment to the provincial Department of Local Government, which is responsible for coordinating and aligning IDPs with department policies and programmes. Although the general structure of an IDP is prescribed by the regulatory framework, with certain requirements needed for specific sections, the IDPs of South African municipalities are diverse in nature, with each municipality structuring its planning document differently.

The development of an IDP is a participatory and interactive process that involves many stakeholders, including the public and the other two spheres of government, i.e. national and provincial. While local government is the custodian of the IDP process, national and provincial governments – through the regulatory framework provided by the National Department of Cooperative Governance and Traditional Affairs (COGTA) and the

participation of sector departments in the annual IDP review process – play a significant role in the formulation of IDPs. It can therefore be assumed that projects included in IDPs have been vetted by the municipal management, municipal departments and the community, and are in fact aligned to the development imperatives of government as a whole. To ensure implementation of projects, the IDP needs to be linked to the municipal budget and the allocation of internal and external funding.

FURTHER CONTEXT

Local Government Elections took place in August 2016, and newly elected local governments needed to construct and approve a new generation of IDPs by the end of May 2017. Furthermore, the number of municipalities has decreased from 278 to 257, following the demarcation of municipal boundaries. Some municipalities were disestablished and merged with other municipalities, while in other cases new municipalities were formed.

With the effects of climate change becoming more apparent, the analysis of these IDPs will provide an indication as to how municipalities may have begun to view the impacts of climate



change on their service delivery mandate with new vigour.

The objective of this study is to identify to what extent municipalities have adopted measures in their IDPs to promote sustainable energy and climate change mitigation and adaption projects. The IDPs should be made public on the municipalities' own websites or National Treasury's.⁶ However, this is not always the case. Assistance in obtaining IDPs that could not be found using these websites was provided by the provincial SALGA offices.

6 <http://www.treasury.gov.za/>

Once the IDPs had been examined an analysis of the results was done, comparing them to previous studies in order to determine any change in municipal performance. Further information is given about the projects planned by municipalities, indicating which project categories are most prevalent. A more detailed provincial analysis was then conducted which identified possible factors that affect the results of the study. Specialists in the field were also consulted in order to give insights into the results of the study. Recommendations on how to better integrate climate change and sustainable energy in municipal IDPs were also developed based on the results.

*A view of central Johannesburg
(©GIZ, Zeller)*



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METHODOLOGY

TOP GREEN PLANNER

An indicator called the Top Green Planner (TGP), consisting of three criteria, was created to assess the IDPs. Municipalities were identified as TGPs if their IDP:



CRITERION 1

Identifies sustainable energy and/or climate change as a priority

In order to meet this criterion, it was necessary for municipalities to highlight the impacts of sustainable energy and/or climate change as well as mention the importance of, and their commitment to, reducing the effects of global warming.



CRITERION 2

Lists specific sustainable energy and/or climate change projects in their areas of jurisdiction.

The projects need to be mentioned within the project list and be earmarked to begin within the next five years. Projects being coordinated by the municipality in partnership with other stakeholders were considered acceptable to fulfil this criterion. However, projects that were being done solely by provincial/national departments or other entities were not counted as municipal projects in this list. This meant that the study focused on municipal initiatives and ability to create partnerships in the sector. All other projects done by other spheres of government are necessary to achieve the developmental objectives of municipalities but were not the focus of this study. Strategic goals and performance indicators stating climate change or sustainable energy, previously considered as acceptable projects in the study conducted in 2015, were not included in the list of projects in this study.



CRITERION 3

Allocates a budget for implementation of the projects.

For this component to be fulfilled, funding had to be allocated towards a project. This could be from the municipality's budget, grants or from third-party sources.



SERIES OF STUDIES

This section offers a summary of the series of studies previously done in this field. As the realisation of the importance of sustainable energy and climate change initiatives has grown in South African municipalities, so has the methodology of attempting to identify such projects within IDPs.

Baseline Study 2012

The baseline 2012 study focused on sustainability and energy planning in the IDP. The selected project categories were mainly derived from the strategic priority areas of the SALGA Energy Efficiency and Renewable Energy Strategy for Local Government.⁷ This study identified 45 municipalities as TGPs; however, only 236 out of 278 municipal IDPs were studied, because the IDPs of 42 municipalities could not be found.

Study in 2015

For the 2015 study,⁸ 277 out of 278 municipal IDPs were analysed. As in 2012, the study focused on sustainability and energy planning in the IDP. The research also looked at other climate change mitigation and adaption projects, but only on a very high level. The number of TGPs identified in 2015 grew to 60 out of 278 municipalities.

Study in 2017

Due to the redetermination of municipal boundaries made by the Municipal Demarcation Board in 2016, the number of

Climate change projects can also provide job creation, better living conditions as well as financial savings in their own operations.

municipalities declined to 257. The IDPs of all municipalities published in 2017 were used for the study, i.e. the IDP 2017–2018 or IDP 2017–2022. In cases where this latest version could not be found the 2016 IDP was used – this was the case for six municipalities. LIM 386 municipality was not analysed, as it is a newly formed municipality and had not established an IDP at the time of the study.

As there are a wide variety of climate change adaptation and mitigation initiatives municipalities can implement, and as our effort to mainstream climate change within all municipal sectors has deepened, it was decided to widen the scope of the projects, broader than the initial focus on sustainable energy. Sustainable energy and greenhouse gas emission projects may not be feasible in some municipalities, for a variety of reasons, or perhaps there are more urgent climate change adaption initiatives needed.

The 2017 study included other projects, such as sustainable waste and water management, listed in Table 1 on page 10.

Many of these projects already form part of the services provided by local government, and it was important to distinguish if the projects falling within these categories were specifically aimed at combating climate change as opposed to delivering regular services. Many services, such as water storage and public transport infrastructure, have indirect climate

⁷ SALGA Energy Efficiency and Renewable Energy Strategy for Local Government (2014) <http://www.sustainable.org.za/uploads/files/file100.pdf>

⁸ Sustainable Energy and Climate Change in Municipal IDPs 2015 http://www.cityenergy.org.za/uploads/resource_398.pdf

and environmental benefits. However, as they are already mainstreamed in current planning processes or are not being implemented with climate change in mind, these were not considered in the study.

The 2015 and 2017 study included the following projects, thereafter referred to as 2015 or “2017 (original scope)”:

- The **renewable energy** projects include: biogas, landfill gas, solar photovoltaic, wind, hydropower and small-scale embedded generation. This category includes awareness campaigns, development plans and strategies, and conducting feasibility studies of renewable energy.
- The next category provides information about **energy efficiency** projects. It is further divided into projects aimed at reducing municipal energy consumption (municipal own energy efficiency) and projects that lead to a higher level of energy efficiency in the private and residential sectors (energy efficiency in the economy). Municipal own energy efficiency projects include energy efficiency in municipal buildings, street and traffic light retrofits, water distribution, development of an energy master plan to save energy or participation in an energy efficiency demand-side management programme. Projects for energy efficiency in the economy include the promotion of solar water heaters (high pressure); technical interventions such as ripple control, smart meters, and demand-side management; as well as awareness campaigns.
- The next research category deals with **energy access**, which comprises off-grid systems, alternative clean sources of energy such as solar lamps, biogas or green gel for cooking, as well as solar water heater projects for low-income housing areas. Traditional electrification through grid connection has not been included as a green project, even though this would have been aligned to the internationally agreed energy access approach. The 7th Sustainable Development Goal indeed highlights electrification as an energy access initiative which is efficient, renewable and which improves access to modern energy. Grid electricity consumption is better for households than the use of paraffin or other dirty fuels indoors; however, it has not been included in this study as it is already mainstreamed by most municipalities and driven by the Integrated National Electrification Programme (INEP).

Solar panels powering a wastewater treatment plant, Nieu Bethesda, Eastern Cape



- The **general climate change** category includes planning and research projects, all of which assisted municipalities in developing strategies to combat climate change. For many municipalities, sustainable energy and climate change are relatively new concepts, and plans are needed to identify projects. Economic growth is extremely important to South Africa given the high unemployment rate and poverty levels. Municipalities are attempting to implement green economy projects in order to address economic development through natural and social protection. The 2017 scope of work includes such projects. It must be noted, however, that describing the green economy and green jobs projects might involve a degree of subjectivity. For this study, simply identifying the project was seen as substantially fulfilling criterion 2. Public awareness programmes on environmental management or climate change topics are included in this category. Awareness programmes for specific topics (e.g. energy efficiency) were listed under relevant topics.







In 2017, the following categories were added to the scope of the original study, thereafter referred to as “2017 widened scope”:

- **Low carbon spatial planning and transport** includes projects which aim to design or revamp urban areas to mitigate or adapt to the challenges that could be faced because of global warming. Many IDPs included spatial planning, which could have indirect positive effects on climate change; however, these plans were not included if they did not have climate change as a clearly stated objective. Transport accounts for at least half of South Africa’s energy use in urban areas and approximately one third of GHG emissions.⁹ Given this, it was important to include low carbon transport systems in the study. General road construction and planning was omitted, as it does not strictly address climate change.
- There is an increasing focus on **the environment, biodiversity and food** sectors given the rise of climate change effects. Global warming is expected to have a massive impact on land, ocean, biodiversity and ecosystems which need to be preserved. The scope of work was therefore extended to include these sectors, with projects such as environmental management, atmospheric pollution monitoring and tree planting to combat climate change effects. Sustainable food practices were also included in this category, as food security is under threat, given the changes in the environment.
- **Sustainable water management** is another area of work contained within the 2017 scope. It includes rainwater harvesting, water conservation and the reduction of water losses. As South Africa is a water-scarce nation, and given the current drought situations faced in many parts of the country, sustainable water management is a focus of many municipalities and a key component of climate change mitigation and adaption. It was important to differentiate between such sustainable water projects and general water reticulation projects aimed at water provision. These general water provision projects are not included within the projects list of 2017.
- **Sustainable waste management** is also a key area of climate change mitigation, and project plans in the widened scope primarily include recycling initiatives and waste minimisation. Traditional waste management projects (collection, removal and landfills) are not included in the analysis.

Given the segregated nature of South Africa’s metros and towns, there is huge potential for climate change-friendly spatial planning to occur that will also have other benefits such as reduced emissions related to travel.

9 State of energy in South African Cities (SEA) http://www.cityenergy.org.za/uploads/resource_322.pdf

TABLE 1: List of climate change mitigation and adaption projects considered for criterion 2 of the Top Green Planner Indicator

CATEGORY		PROJECT TYPE	PROJECT SCOPE
SUSTAINABLE ENERGY		<ul style="list-style-type: none"> Renewable energy Energy efficiency Energy access 	2015 and 2017 2015 and 2017 2015 and 2017
SUSTAINABLE WATER MANAGEMENT		<ul style="list-style-type: none"> Rainwater harvesting, water conservation and reduction of water losses, etc. 	2017
SUSTAINABLE WASTE MANAGEMENT		<ul style="list-style-type: none"> Recycling and waste minimisation 	2017
LOW CARBON SPATIAL PLANNING AND TRANSPORT		<ul style="list-style-type: none"> Low carbon climate resilient spatial planning Low carbon climate resilient transport systems 	2017 2017
ENVIRONMENT, BIODIVERSITY AND FOOD		<ul style="list-style-type: none"> Agriculture, food systems and food security Land, ocean, biodiversity and ecosystems 	2017 2017
GENERAL CLIMATE CHANGE		<ul style="list-style-type: none"> Climate change research Green economy General climate change planning Public awareness programmes 	2015 and 2017 2017 2015 and 2017 2015 and 2017



Municipal waste water treatment plants are high consumers of electricity

LIMITATIONS

The following limitations were identified in the course of conducting this study and interpreting the data. Readers should be cognisant of these aspects when reading this report.

The notion of defining sustainable energy or climate change as a priority, the first criterion of the TGP, is subjective. Consistency of this determination has been attempted throughout the three studies; however, with the change in researchers, these interpretations may differ. Climate change should ideally be mainstreamed in all sectors. For this study it was sufficient to meet the first criterion of the TGP if climate change or sustainable energy was discussed with respect to the municipality, along with a statement of the municipality's intent to combat climate change. Simply mentioning the sustainable development goals or national efforts was not considered as sufficient to meet this criterion.

Projects were considered in the project component of TGPs only if they were listed under specific project lists. As part of IDP processes, only these projects can be

budgeted for by the municipality. This is different to the previous study, which included goals or objectives for the municipality as specific projects. It is possible, however, that other projects not stated in the IDPs are implemented by municipalities. Specific plans, such as climate change or energy strategies, were not analysed to identify projects, as it was assumed that projects from these plans would be included in the IDPs. Furthermore, even though IDP projects should include budget allocation for projects planned, many IDPs did not include this.

A project being planned needs to be differentiated from a project being implemented. This study only considered projects being planned by municipalities. Furthermore, IDPs give a title and, at best, a general description of what a project entails. Many projects could also be conducted in a sustainable manner; however, this cannot be identified by a study of this sort. A deeper analysis of the implementation plans of each municipality could be an extension of this study and will give a better reflection of projects coming to fruition.



The Rea Vaya bus rapid transit in Johannesburg is an example of a low carbon climate-resilient transport system

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RESULTS AND DISCUSSION

NATIONAL RESULTS

The study revealed that there has been an increase in climate change initiatives within South African municipalities (see **Figure 1**). The analysis in 2015 showed that 22% of municipalities were TGPs (60 out of 278). It was important to recognise that the scope for identified projects had widened from 2015 to 2017. A direct comparison may lead to skewed results, which is why the data identified in 2017 was first analysed using the same scope as 2015 to give comparable results. Using the same criteria, the 2017 study revealed that 30% of municipalities have now obtained TGP status (77 out of 257). When the scope is widened to include other climate change projects, this number increases to 46% (117 out of 257)! It is important to showcase the strong intentions by municipalities to become more sustainable as well as the wide range of projects being planned to do so. Almost half of South African municipalities in 2017 recognised the threat of climate change in their IDPs and have dedicated projects and funds towards combating it. Going forward, the widened scope should be used to give a more accurate indication of the climate change efforts being planned by municipalities.

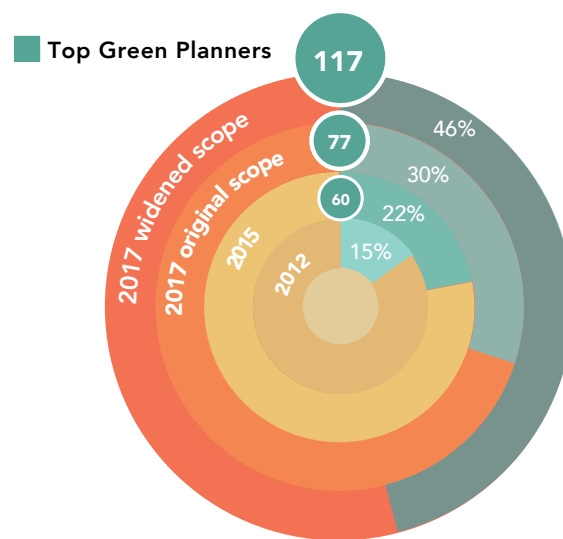


FIGURE 1: The increase in Top Green Planners, 2012 to 2017

Figure 2 below illustrates that, as in 2015, all eight metros attained TGP status. The number of local municipalities identified as TGPs increased from 18% to 42%. This was an increase from 40 to 84 local municipalities becoming TGPs. The number of district municipalities being identified as TGPs also increased, from 40% to 52%. This is an increase from 13 to 23 district municipalities as TGPs.

One of the reasons metros are able to maintain TGP status is their ability to institutionalise climate change within their municipalities. Having a unit of dedicated staff focusing on this area of work allows the metros to identify and develop projects as well as assists in attracting funding and partnerships. Having more resources than other smaller municipalities gives them the opportunity to do this.

The inclusion of other climate change projects positively influenced the number of TGPs. This was expected, as more projects could be included, especially water and waste projects, which are areas that municipalities focus on. Importantly, an increase in district and local municipalities achieving TGP status occurred in 2017, regardless of whether the 2015 or 2017 project scope was used. This analysis shows that there has been an increase in municipalities planning for and funding sustainable energy and high-level climate change mitigation and adaptation projects.

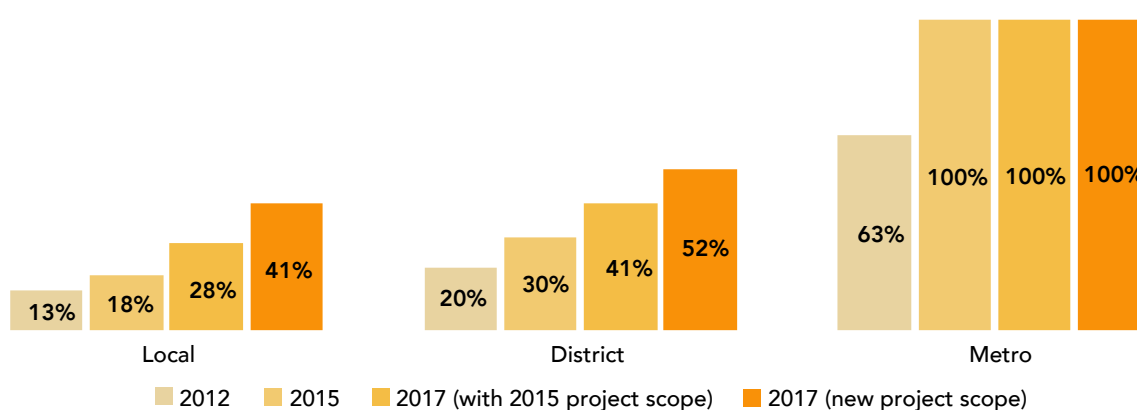


FIGURE 2: Breakdown of the number of TGPs by category of municipality

Smaller municipalities often do not have the resources to have dedicated staff working on sustainability issues. The motivation for climate change-related initiatives is often from external sources and is generally not driven by the municipality. There is perhaps a greater need for rural or poorer municipalities to use their limited budgets on, arguably, more urgent issues, such as water and sanitation. **Figure 3** shows that district and local municipalities fall short in identifying and finding budget for projects of this nature. Less than half of local municipalities are able to do so. District municipalities perform somewhat better; however, they are still a long way off in performing similar to the metropolitan municipalities.

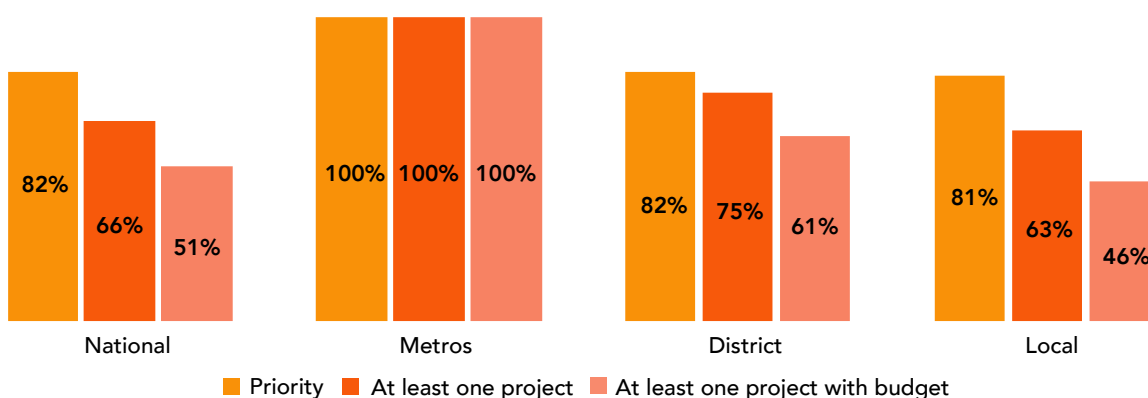


FIGURE 3: Breakdown of the municipalities fulfilling specific criteria identified in the 2017 study with the widened scope

PROVINCIAL RESULTS

An increase in the number of municipalities meeting the three criteria of the TGP was seen in all provinces when the results of 2015 were compared to the enlarged scope of 2017. As seen in **Figure 4**, Limpopo has the highest percentage of TGPs, followed closely by Gauteng and the Western Cape. It is interesting to note that the number of TGPs would have declined in the North West if the scope had remained unchanged. Provinces such as the Eastern Cape, Free State and Western Cape would also have shown little to no improvement had the scope remained the same. A high-level analysis of each province's performance, along with factors affecting this, is given below. A more detailed analysis of each province is provided in Section 8.

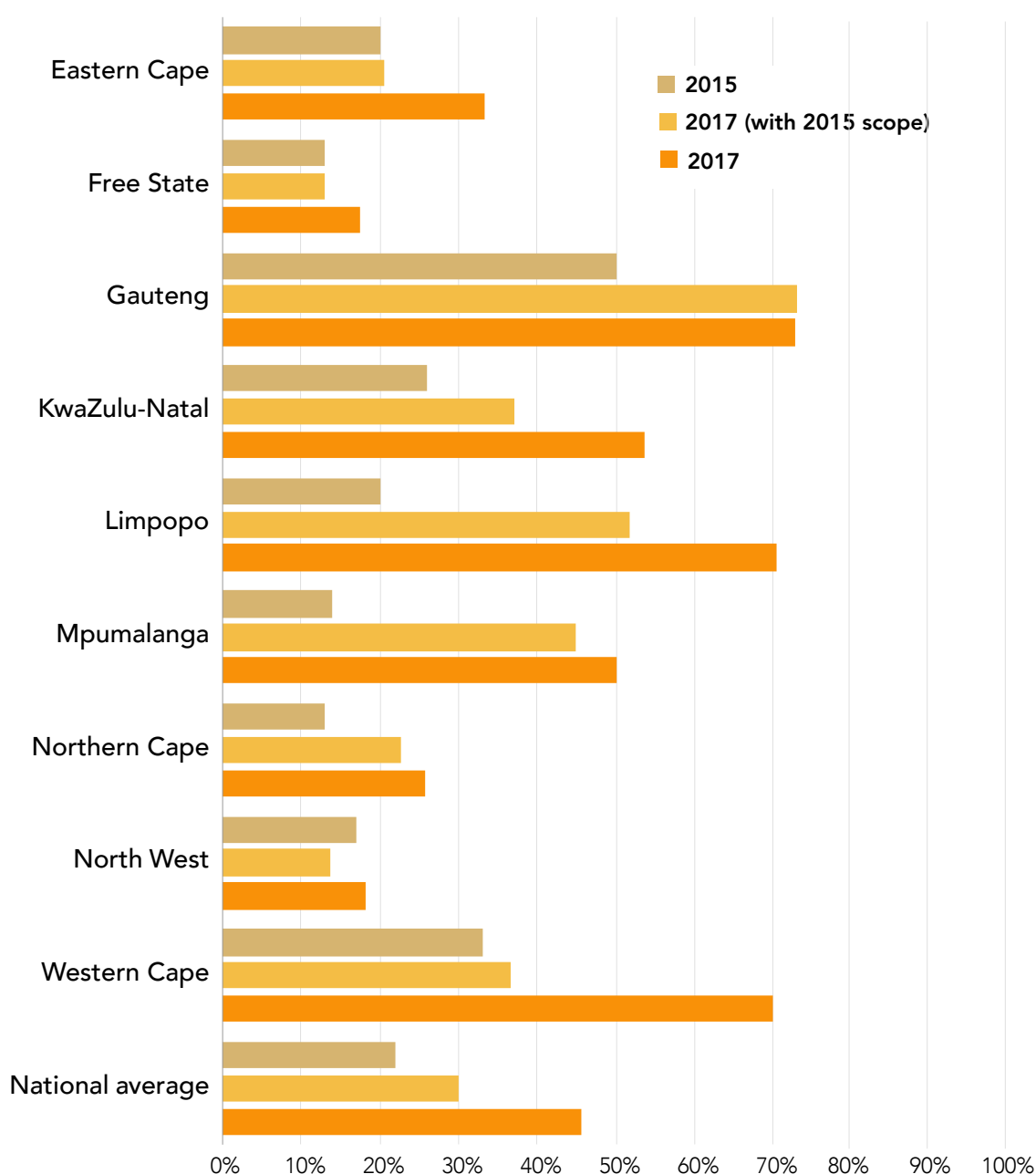


FIGURE 4: Breakdown of the number of TGPs per province

Limpopo, KwaZulu-Natal (KZN) and Mpumalanga

These three provinces showed areas of great improvement in comparison to the 2015 study. Climate change specialists at SALGA mentioned that possible reasons for this were that these three provinces had the strongest participation in the LGCCSP. Furthermore, their respective provincial governments and other local institutions are very active in this field, giving additional assistance to municipalities.

Limpopo was seen to be the most improved and best-performing province when analysing with the widened scope. It is also interesting to note that the improvement is not due solely to the increased scope, as there is an increase from 20% in 2015 to 44% in 2017 (original scope) of municipalities. The most common project category in this province was public awareness programmes. A key success factor was the high number of projects to which funds were allocated. Only one out of the 54 projects planned did not have budget allocated to it. As there was little evidence of grant or third-party funding, it suggests that municipalities had identified financing for these projects from their own budgets.

In Mpumalanga the number of TGPs increased from three to 10 out of the 20 municipalities. The results also show that this increase was not due to a widening of the project scope. Almost 95% of the projects listed had funding sources allocated to them.



Limpopo has the highest percentage of Top Green Planners, followed closely by Gauteng and the Western Cape.

The presence of eThekweni, driving the Central KZN Climate Change Compact and the Durban Adaption Charter (DAC) Secretariat, as well as the pronouncement by the Premier that every municipality should have a climate change plan or strategy, has created a lot of interest and support in KZN. As a result, more than 90% of the municipalities in the province mentioned sustainable energy and climate change as a priority for their area. Grants and partnerships were noted as possible factors that may influence a municipality's status of TGP. Nineteen municipalities improved their status as a result of having a grant or partnership in 2017, or regressed due to not having a grant/partnership in 2017 but having one in 2015.

Gauteng and Western Cape

Gauteng and the Western Cape were the best-performing provinces in the 2015 study and continued to improve on their results. The concentration of financial and human resources in these provinces may ensure that these projects are more likely to see fruition.

It is important to mention that every municipality in Gauteng showed intent within its IDP in taking action against climate change. This is vital in leveraging partnerships and support for projects in this field. The province had the highest percentage of municipalities achieving TGP status when the scope of the 2015 was used with 2017 data. This shows that the province has a large focus on sustainable energy projects, with 17 being recorded.

Conversely, the Western Cape, which was the second-best performer in 2015, saw very little improvement from the 2015 to 2017 when a similar project scope is used. However, the number of municipalities obtaining TGP status

Solar panels power the wastewater treatment works in Nieu Bethesda, Camdeboo, Eastern Cape

The fact that some municipalities did not distribute electricity was seen to be a determining factor in them not developing sustainable energy projects.

increases from 10 to 21 with the widened project scope. Clearly the province focuses a lot on projects such as sustainable waste and water management. Given the current drought conditions, this is no surprise.

Eastern Cape and Northern Cape

These provinces showed a slight improvement in results. It was also noted that there was good participation from these provinces during the LGCCSP and good support was provided. However, some municipalities may encounter difficulties in maintaining climate change activities once external institutions withdraw support. This indicates a need for additional municipal resources, long-term support programmes and district municipalities or provincial government playing a greater role.

In both these provinces there is a high presence of Independent Power Producers (IPPs). Interestingly, the large presence of IPPs in the Northern Cape may have contributed to the lack of sustainable energy projects being implemented by municipalities. More than 50% of the municipalities that were not TGP had at least one IPP project within their jurisdiction. It was noted during the analysis that some of the municipalities in the Northern Cape perceived the existence of the IPPs in their area as their contribution toward climate change. Interestingly, the opposite occurred in municipalities in the Eastern Cape, where there are also many IPP projects. Municipalities in the Eastern Cape see the need to develop their own climate change projects, regardless of the IPP presence.

There could also be greater alignment of the socio-economic contribution from IPPs to development plans of municipalities. With contributions from IPPs towards socio-economic and enterprise development

expected to be over R25 billion,¹⁰ it is important for this coordination to occur. This presents a potential large source of funding that can be directed towards sustainable energy and climate change projects.

The fact that some municipalities did not distribute electricity was seen to be a determining factor in them not developing sustainable energy projects. In the Eastern Cape, nine municipalities did not have distribution licences, and only one of these had a sustainable energy project.

North West and Free State

Municipalities from these provinces showed very low attendance in the LGCCSP and this is reflected in the results of this study, as no improvement in results was seen in these municipalities in comparison to the 2015 study. Many other challenges are being faced by municipalities in these regions, and external support might be needed to provide capacity and resources for climate change planning and activities. With the combined effort of provincial departments, non-governmental organisations (NGOs) and developmental institutions, a major increase in municipal-led climate change initiatives could occur in these areas.

The North West and Free State provinces have very similar results. Four of the 22 North West municipalities were TGPs compared to three out of 22 in the Free State. Sustainable energy was noted as a high priority in the analysis of the Free State. However, this did not necessarily result in projects in IDPs, as only six of the 20 municipalities had projects planned. A large dependency on grants and partnerships was also seen in this province. Sustainable energy projects were also the most common project category among in the North West. However, only three of the seven projects planned were allocated funding.

¹⁰ Local Economic Benefits in the Renewable Energy Independent Power Producer Procurement Programme Information Package http://www.cityenergy.org.za/uploads/resource_396.pdf

CRITERIA ANALYSIS



CRITERION 1: Sustainable energy and/or climate change is given priority

More than 80% of municipalities mentioned sustainable energy and/or climate change as a priority within their IDPs, which translates into 210 out of 257 municipalities. This is an increase from the 66% seen in 2015. Furthermore, the number of municipalities that included both sustainable energy and climate change as a priority also increased (see **Figures 5 and 6**).

All of the metros once again showed great intent in 2017, with seven of the eight metros identifying sustainable energy and climate change as a priority area. The number of local municipalities identifying sustainable energy and/or climate change as a priority increased from 146 in 2015 to 166 in 2017. This increase occurred even though the number of local municipalities decreased by 21 due to mergers. The number of district municipalities identifying sustainable energy and/or climate change as a priority also increased, from 30 in 2015 to 36 in 2017. Interestingly, more than 60% of district municipalities identified sustainable energy as a priority, even though they do not

Contributions from IPPs towards socio-economic and enterprise development are expected to be over R25 billion, presenting a large source of funding that can be used on sustainable energy and climate change projects.

distribute electricity. Indeed, a wide range of energy projects can be implemented by municipalities even if they do not distribute electricity. These results show that there is intent by most municipalities to combat global warming.

Although the levels for priority are high, there is still room for improvement. Many municipalities listed the sustainable development goals or the national carbon emissions targets without relating them back to their own municipality – this was excluded. Twelve municipalities also had projects and budget but failed to gain TGP status due to a lack of priority stated in their IDP. Adding intent may seem unnecessary. However, stating this priority within a municipal IDP can assist in ensuring sustained support to project implementation within the municipality and can attract partners, which could help in implementing climate change projects.

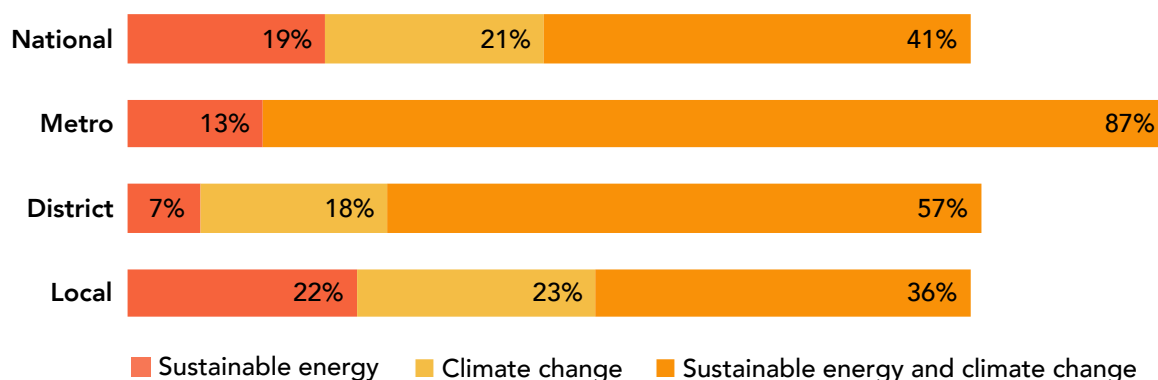


FIGURE 5: Percentage of municipalities mentioning sustainable energy and/or climate change in 2017, per municipal category

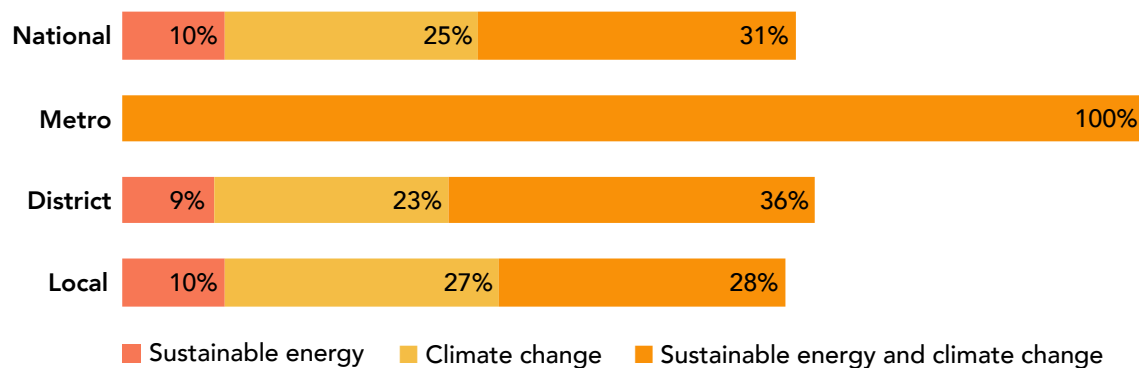
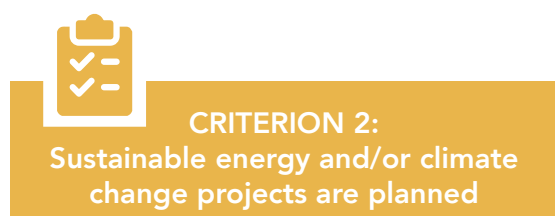


FIGURE 6: Number of municipalities mentioning sustainable energy and/or climate change in 2015 per municipal category



Sustainable energy projects are the most popular among municipalities, with 171 projects being identified.

Figure 7 indicates the number of projects identified in municipal IDPs for each project category, as described in the methodology. In total, 456 projects mitigating, or adapting to, climate change were identified within municipal IDPs in 2017. It is interesting to note that the three categories of sustainable energy, waste and water make up more than two thirds of the total projects identified. These project types fall under the service provision mandate of a municipality. Section 156(1) of the Constitution states that a municipality has executive authority in respect of, and has the right to administer the functions of, among other things, electricity and gas reticulation, water and sanitation services as well as refuse removal, refuse dumps and solid waste disposal.¹¹ Certain projects, such as waste recycling, can provide services to the people while still help mitigate climate change and could be the main reason why they are prioritised.

The graph shows that sustainable energy projects are the most popular among municipalities, with 171 projects being

identified. Electricity purchases make up on average almost 22% of a municipality's expenditure,¹² second only to employee costs, and in many of the larger metros this proportion is much higher. In municipalities with a distribution licence, bulk electricity is purchased from Eskom and is used by the municipality for its own operation and sold to customers within its boundaries. Given the increasing price of electricity purchased from Eskom and the reduction in sustainable energy technology prices, these projects may provide a way to reduce expenditure.

Higher grid electricity prices have also led to constant or declining electricity sales. Profits from the sale of electricity, especially high-income, industrial and commercial customers, are used by the municipalities to subsidise low-income households and other services. Revenue protection may be possible for municipalities implementing renewable energy projects, as these projects are able to produce electricity at a constant price for 20 years, assisting in price stability for customers.

11 Constitution of South Africa: <http://www.justice.gov.za/legislation/constitution/SACConstitution-web-eng.pdf>

12 Municipal Financial Census, StatsSA <http://www.statssa.gov.za/?p=7937>

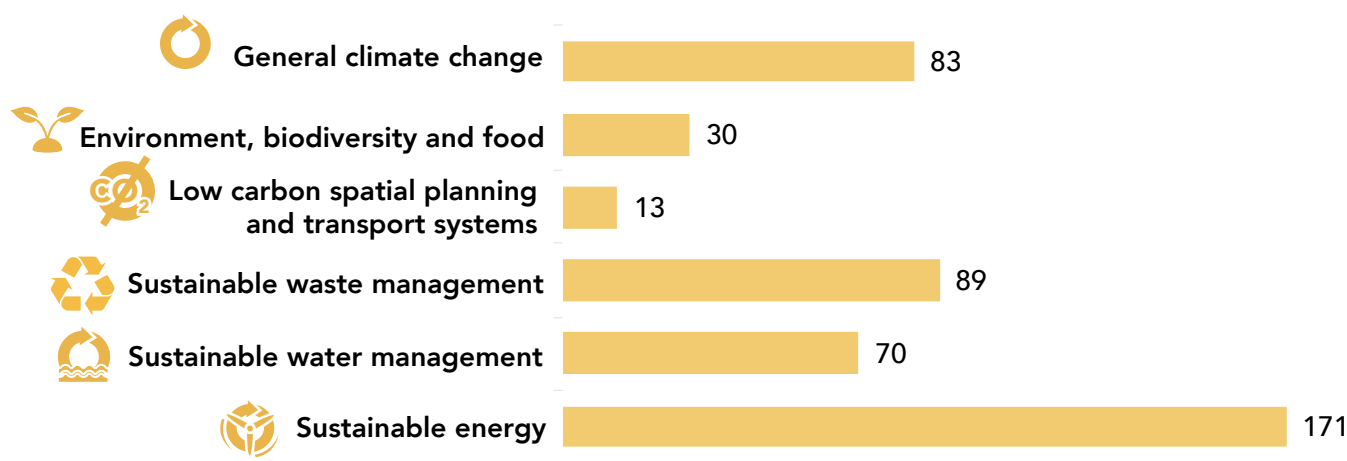


FIGURE 7: Breakdown of number of projects by project category

PROJECT BREAKDOWN

General climate change projects included adaptation, mitigation, monitoring and research strategies for each municipality. Policy development and mainstreaming of climate change were also included on some occasions, which is promising from a climate change adaptation and mitigation perspective.

Some of these projects were very generally stated, and there could be discrepancies in the manner in which these projects are implemented. Plans to integrate the green economy into a municipality were seen in 10 municipalities. As mentioned in the limitations section, further investigation into the exact nature of these projects may be needed. It could be argued that the number of projects in this field could be drastically increased, as implementation of any of the projects identified in this study would potentially stimulate the green economy within the municipality. Public awareness programmes included environmental and climate change awareness programmes. Awareness programmes for specific project types were listed within the specific project categories as opposed to general climate change. The large number of awareness programmes is beneficial for many citizens, as well as municipal councillors and officials, who may not be fully aware of the effects of climate change and how they can be prevented.

Environment, biodiversity and food primarily comprised projects that entail greening of towns and communities. These projects could take the form of fairly simple and inexpensive ways in which municipalities could assist in mitigating climate change. Biodiversity protection and adaptation were also common projects in this category. Only three food-specific projects were recorded. This is understandable, as food production is primarily done by the private sector, and tracking sustainable food production practices by these actors is beyond the scope of this study. There has been a lot of emphasis on food security given future population levels and changing climates, and this could be an area where municipalities can ensure that sustainable farming methods are conducted. Some of the projects include food security programmes for homestead gardens and establishing a cluster of gardens showcasing a range of sustainable, eco-friendly practices.

Low carbon spatial planning and transport made up 3% of the projects found. Eleven of the 13 projects were transport-related, with the promotion of bicycle lanes being common. Three municipalities plan on developing alternative, energy efficient transport systems. The transport sector contributes on average half of municipal energy consumption, with this figure increasing for metros with airports

and harbours. Rural municipalities have a much lower proportion of transport energy consumption in comparison to total energy consumed.¹³ It was very difficult to identify spatial planning projects, as many municipalities have spatial plans, but these do not necessarily focus on climate change, although they could indirectly assist. These projects are often very complex and mainly relevant to metros and intermediate cities, which is possibly why the number of projects is low. With the segregated nature of South Africa's metros and towns, there is huge potential for climate change-friendly spatial planning to occur that will also have other benefits such as reduced emissions relating to travel.



Recycling projects made up all of the **sustainable waste management** projects listed. These included awareness programmes and the infrastructure development needed to facilitate the recycling of materials. There has been a drive from national government to move away from landfill sites, which has ensured that municipalities look towards recycling initiatives. Furthermore, there are a large number of waste pickers who informally recycle goods in waste stations and landfill sites. By establishing recycling facilities, municipalities can also create formal employment for these people within their jurisdiction. When consulting the SALGA specialist on the matter it was made clear that, even though many recycling projects are planned, there is a small number of projects being implemented on the ground.



There are many reasons why **sustainable water management** projects are frequently planned by municipalities. Firstly, water provision is a mandate of each municipality and, given the current drought conditions in large parts of the country, many would be trying to implement sustainable water projects. The inclusion of the water demand side management grant was seen to play a major role in this. Secondly, the cost of water provision is high. Any reduction in water usage, especially water losses, could aid financially. Water conservation also impacts on energy consumption, with water treatment plants constituting up to 30% of a municipality's

own electricity usage.¹⁴ Optimisation of processes and improving efficiency in water distribution can assist in reducing a municipality's energy expenses. Finally, grants are often used for water infrastructure projects, as mentioned above.



A relatively small component of **sustainable energy** category is energy access, making up 12% of the projects. This included the provision of low-pressure solar water heaters and solar PV home systems for households not connected to the electricity grid. As sustainable energy access is one of the Sustainable Development Goals, it is vital that this is monitored. Solar energy can aid with service provision by providing many households in rural areas (or where infrastructure is lacking) with clean electricity or hot water. The Free Basic Alternative Energy Grant (FBAE) encourages municipalities to explore options such as solar energy and cooking gels for indigent citizens. The stalling of the National Solar Water Heater Programme could have drastically reduced the number of projects in this category, as 43 projects were planned in the 2015 study in comparison to the 13 in 2017.

The breakdown of energy efficiency and renewable energy can be seen in **Figures 8 and 9**. Installation of solar PV was the most common renewable energy project planned, although there is often little detail about the solar project within the IDP. "Other" mainly comprises alternative or renewable energy provision without mention of the resources to be used, which could indicate the very broad intent of the municipality to develop renewable energy projects without necessarily having a clear plan yet. Thirteen biogas projects, mostly within wastewater treatment works, were also identified. Even though only one project for small-scale embedded generation was identified, it must be noted that many municipalities have created, or are in the process of creating, systems to accommodate small-scale embedded generation within their municipality. Creating favourable tariffs and easy registration processes can be seen as an enabler of these systems.

13 SALGA Renewable Energy and Energy Efficiency Strategy
<http://www.sustainable.org.za/uploads/files/file100.pdf>

14 Modelling Energy Efficiency Potential in Municipal Operations in the Member Cities of the SACN <http://sacitiesnetwork.co.za/wp-content/uploads/2014/07/Energy-Efficiency-Potential-Short-Report.pdf>

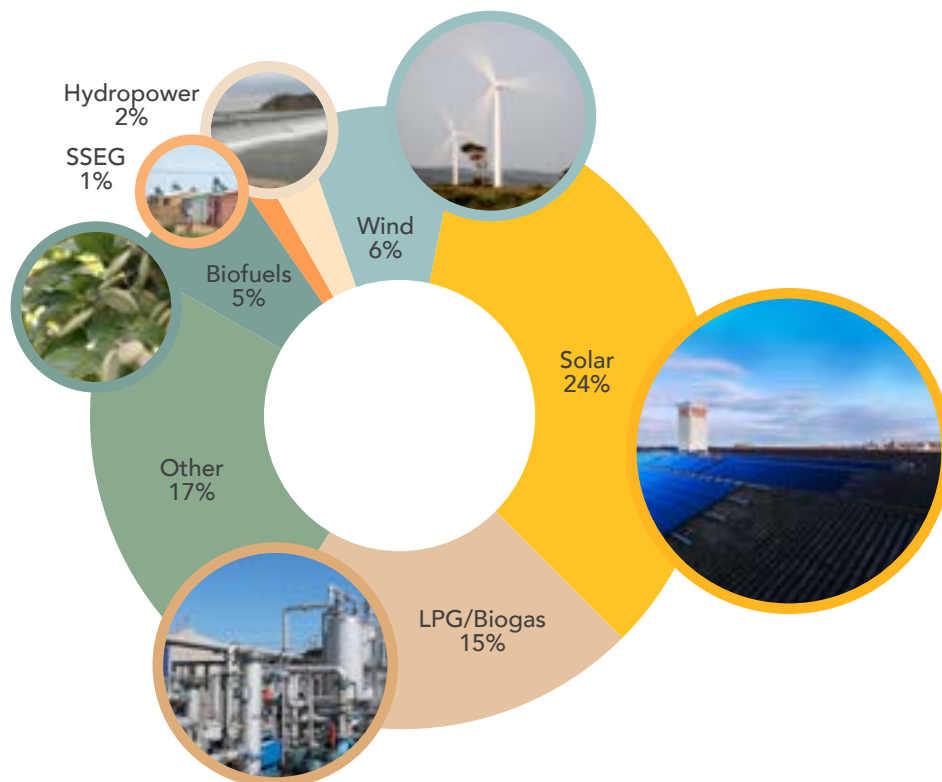


FIGURE 8: Breakdown of renewable energy projects identified within IDPs

Energy efficiency is an easy mechanism for municipalities to reduce their electricity bill and carbon footprint. The Energy Efficiency and Demand Side Management Grant (EEDSM) helped fund many of these projects, such as street and traffic lighting as well as projects within municipal buildings. The general EEDSM category includes projects where a municipality had not been specific on project details. The 'Other' category also included generally stated projects by municipality within this field. This could indicate that the municipality needs assistance in planning. Technical interventions included four load control projects, two smart grid projects and a power correction factor project.

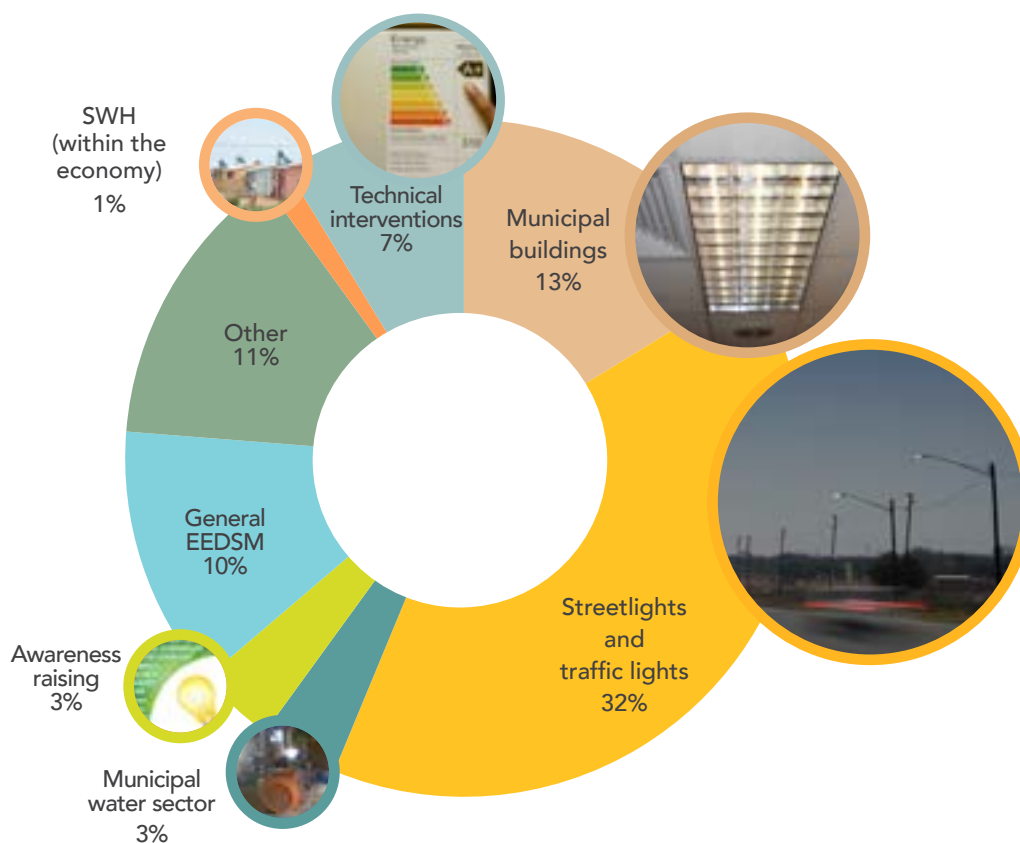


FIGURE 9: Breakdown of energy efficiency projects identified within IDPs



CRITERION 3: Sustainable energy and/or climate change projects have been allocated budget

Figure 10 below shows the percentage of municipalities with at least one project planned for both the 2015 and 2017 studies. This is plotted alongside the percentage of municipalities with at least one project having been allocated budget.

As the scope of projects widened in the 2017 study, it was important to also include the analysis of the 2017 data using the 2015 project scope to accurately analyse any change in results. The graphs show that the percentage of municipalities with projects planned is significantly higher than the percentage of municipalities with a project planned with budget allocated. This indicates that identifying budget for sustainable energy and climate change projects may be where municipalities fall short. This funding gap to perform these projects can be said to have decreased from 2015 to 2017. In 2015, 30% of municipalities that had planned a project could not find budget. This reduced to 15% in 2017 (using the 2015 scope).

The inclusion of this analysis identified that there would be a decrease in the number of municipalities with one project planned in 2017, from 58% to 50%, should the 2015 project scope remained unchanged. This number then increases to 67% of municipalities with a widened 2017 project scope. Further analysis revealed two reasons for this result. The first is that there was a change in the way projects were identified. In order for projects to be recognised in 2017 they had to be on the project list of a municipality's IDP. Sector objectives, vision, goals etc. were not considered in 2017, but were in 2015. Secondly, after comparison of the project types was conducted, it was found there was a decline in the number of solar water heater projects for energy access, from 43 in 2015 to 13 in 2017. This could be due to the delay of the National Solar Water Heater Programme in 2015, when the Department of Energy took over the reins of the programme from Eskom. This transition saw no installations during the 2015/16 and 2016/17 financial years. Due to this, municipalities may have scaled back on solar water heater projects. This further indicates a dependency on grants by municipalities to implement projects of this nature, which is discussed throughout the report.

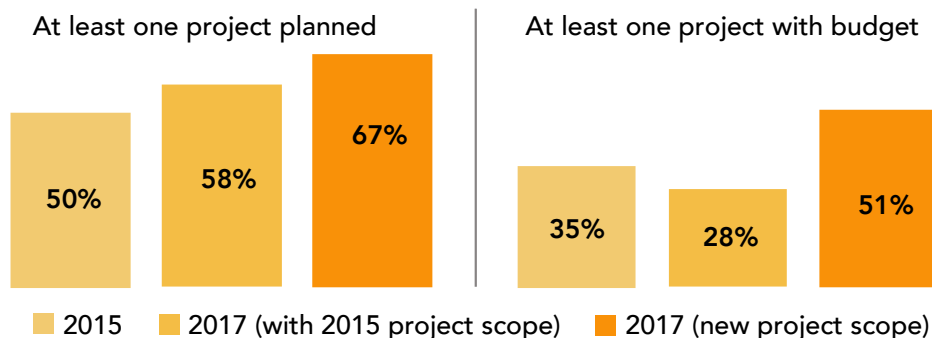


FIGURE 10: Percentage of municipalities with projects planned and projects allocated budget

As expected, there is a rise in the percentage of municipalities with at least one project budgeted from 2015 to 2017 with the broadened scope of projects. However, the difference in municipalities with a project budgeted in 2017 using the old scope vis-à-vis the 2017 widened scope is quite large. Projects such as water and waste management may have a higher priority for municipalities, and therefore budget is prioritised to these areas.

Right: Solar water heaters in low income households in Tshwane

FUNDED PROJECTS

301

TOTAL
PROJECTS

456

FIGURE 11: Number of projects identified and number of projects with allocated budget in 2017

Figure 11 indicates that around two thirds of projects being planned have budget allocated to them. This shows that an improvement can still be made in terms of linking local government with financing mechanisms. A climate change specialist indicated that there is a significant gap in the availability and accessibility of funds for climate change initiatives for cities and local authorities. Municipalities predominantly fund projects of this nature using capital grants, such as the municipal infrastructure grant (MIG), regional bulk infrastructure grant (RBIG) and the municipal water infrastructure grant (MWIG). A short guideline document highlights some ways in which this could be done, with a focus on the energy sector.¹⁵ However, the financing of these projects is at risk if this dependency remains amid a tightening of fiscal budget by

The stalling of the Solar Water Heater Programme could have drastically reduced the number of energy access projects, as 43 SWH were planned in the 2015 study in comparison to only 13 in 2017.

National Treasury. From a broader perspective, the current financial and capacity deficit currently occurring at local government level in general makes it very difficult for municipalities to institutionalise initiatives to mitigate climate change. Institutionalisation of such initiatives within a municipality, which often takes the form of dedicated staff or units, has been mentioned to be a key component in mainstreaming these initiatives in municipal planning. The lack of resources is then exacerbated, as these municipalities are vulnerable to the impacts of climate change. Financial resources from an already constrained source are then needed to respond should these impacts occur in the form of changing climatic conditions.

¹⁵ How to include energy efficiency and renewable energy in existing infrastructure grants: Information guide for municipalities: http://www.cityenergy.org.za/uploads/resource_435.pdf



6

RECOMMENDATIONS: FURTHER SUPPORT FOR MUNICIPALITIES

As mentioned throughout the report, support is often very helpful for municipalities to integrate sustainable energy and climate change in their planning. This was demonstrated by the good results achieved by the Local Government Climate Change Support Programme (LGCCSP) led by the DEA and SALGA. Indeed, active participation by municipalities in the support programme, as well as further assistance from provincial government and other institutions, was shown to yield positive results. This support should be continued to ensure long-term results and to provide additional support to municipalities.

In 2016, the DEA in partnership with SALGA and provincial governments conducted workshops to assess local government needs in terms of climate change mitigation support. These workshops and analysis of the data gathered led to an understanding that differentiated support is needed for municipalities, based on their unique situation and resources. The support identified by the DEA and its partners mirrors some of the conclusions reached in this study. This support included capacity building and technical advice, peer-to-peer learning exchanges, the development of an information portal, support on project preparation and funding opportunities as well as further support on planning processes through the development of tools, templates and guidelines. It is recommended that the LGCCSP be sustained and if possible enhanced, as it did show very positive results.

This study also demonstrated that support cannot be provided as a once-off solution: long-term, continuous support is often needed. To achieve this, it may be strategic

to capacitate the provincial governmental departments, where needed, which could then be in a position to better support the municipalities in their provinces. The approach developed by the LGCCSP is also interesting, as the programme focused on supporting district municipal planning processes, with the view that this would cascade down to local municipal plans.

Institutionalisation of climate change initiatives within a municipality, which often takes the form of dedicated staff or units, has been mentioned to be a key component in playing a successful role in mainstreaming climate change initiatives in municipal planning. The current financial and capacity deficit currently occurring at local government level in general makes it very difficult for municipalities to institutionalise climate change initiatives. Municipalities, particularly at the district level, could be encouraged to appoint dedicated resources to coordinate climate change and sustainable energy programmes. If situated within a district municipality, support should also be provided to local municipalities. Municipal managers could become responsible for the achievement of clear milestones, for example through their job descriptions and key performance indicators. COGTA, together with the relevant departments in provinces, could be tasked with coordinating this process and ensuring that funding is made available to municipalities for these positions.

District and provincial forums or exchange platforms on energy and climate change exist in many jurisdictions. These should be used by municipalities to share good practices and lessons learnt and by support institutions to share information with municipalities about the support available.

FUNDING

As mentioned several times in the report, funding identified projects is often the main stumbling block for municipalities. Given the long timespan of projects of this nature, debt financing over long periods, the use of Green Bonds for example, is perhaps more suitable than using grant funds. Public–Private Partnerships could also provide possible solutions. Climate financing mechanisms that assist in financing projects are available, and have been successfully used by a few municipalities. Municipalities should be encouraged and supported to use these financing mechanisms. Several governmental institutions have already started working with these objectives in mind. In particular, the Integrated Urban Development Framework and its associated new grant, the Integrated Urban Development Grant, aim to assist metropolitan municipalities and intermediate cities to leverage sources of funding other than government grants. These could be potential avenues to explore for greater climate change financing at the local level.

An additional difficulty in accessing international climate funds is that most international climate change funds use implementing agents, often with their own priorities, and funds are not directly awarded to municipalities. Local governments have to apply through the implementing agents to access this funding. This disconnectedness can impact on project implementation and ownership of projects. As municipalities are not fully empowered to access funding opportunities on their own accord, and take full ownership of projects, they are not incentivised to build complementary capabilities in their own structures and funding

instruments. Direct access to international funds by local governments could be useful to increase funding available at this level.

It may be difficult for many municipalities to access these funding streams or to set up projects due to their complexities. Smaller municipalities, which sometimes have additional financial challenges, or municipalities planning small-scale projects are not always attractive to these funds. These municipalities could be supported in using existing capital grants, such as the MIG, RBIG and the MWIG, to fund their projects.

DIFFERENTIATED APPROACH

The results of this study, combined with additional assessments, could be used to differentiate the support provided to municipalities. For example, if a municipality has not identified climate change as a priority in its IDP, general awareness-raising of climate change and its impacts might be useful. An overview of possible climate change projects which are already being implemented by municipalities in similar situations could assist in the development of similar plans in less capacitated municipalities. In municipalities that have identified projects but have not allocated funding to these, specific support on project preparation could be provided, with the objective of improving the project maturity to match it with existing sources of funding. **Table 2** below lists the forms of possible strategic support that could be given to municipalities found to be fulfilling specific criteria in this study.*

TABLE 2: Example of differentiated support to municipalities based on the results of this study

STATUS	POSSIBLE TYPES OF SUPPORT
Climate change and sustainable energy not identified as priority in the IDP	<ul style="list-style-type: none"> • General awareness-raising on climate change, its impact and the role of local government. Information-sharing on projects implemented by municipalities in South Africa. • Support to the municipal planning officials during IDP development, in line with the LGCCSP methodology. • Peer-to-peer exchanges with municipalities of similar nature taking action against climate change. • Integration of the support in municipal priority areas, for example water provision or sanitation, where municipalities face the greatest challenges.
Climate change and sustainable energy identified as priority but no project identified	<ul style="list-style-type: none"> • Planning support to sector departments. • Development of specific tools for municipalities to identify, package and prepare specific projects, for example solar PV on municipal infrastructure or waste recycling tools and templates. • Peer-to-peer learning with municipalities which have implemented projects in areas of interest for the target municipality.
Climate change and/or sustainable energy projects identified but no funding earmarked	<ul style="list-style-type: none"> • Review project preparation and support to project development and preparation, including feasibility studies where relevant. • Support to identify relevant funding sources, partnerships and assistance in preparing project proposals.
Others	<ul style="list-style-type: none"> • Identify the specific situation of the municipality and decide on adequate support.
Top Green Planners	<ul style="list-style-type: none"> • Support in project implementation or further project identification, possibly in other sectors.

*Should organisations be interested in the results of the analysis, they can be made available on request by contacting the author using the details provided on the imprint page.

The concentrated solar power (CSP) project in Bokpoort, approximately 25 km north of Groblershoop in Northern Cape province (Glenn McCreath)



7

CONCLUSION AND RECOMMENDATIONS FOR FUTURE STUDIES

With local governments having been identified as a major role player in combating global warming, this study attempted to identify how South African municipalities are reacting to climate change from a planning perspective. The study, which followed up on previous studies conducted in 2012 and 2015, analysed the IDP reports published in 2017 by the 257 municipalities in the country. Intent, scope of projects and budget allocation all formed part of an indicator called the Top Green Planner.

All indicators and analysis conducted through this study show that municipalities are increasingly integrating climate change into their planning documents. More municipalities have identified climate change as a priority, showing greater intent by municipalities. The number of projects identified by municipalities also increased. Moreover, a greater proportion of the identified projects were funded. These results show that municipalities in South Africa are increasing their efforts in addressing climate change.

Studies of this nature also help to identify factors that lead to success or failure. The ability of a municipality to institutionalise climate change initiatives within its structures was seen to lead to greater success in planning projects of this nature. The lack of financing mechanisms for local government to directly access funding for sustainability-focused projects is a serious concern and needs to be addressed. The impact of external support to municipalities cannot be underestimated. Active participation by municipalities in the LGCCSP, as well as further assistance from provincial government and other institutions, was shown to yield positive results. Long-term,

strategic support may however be needed to integrate climate change initiatives within municipalities, especially those with limited resources, in order to yield long-term results.

The capturing and recording of climate change initiatives is essential in identifying the great effort required to mitigate and adapt to global warming. Publicising these projects can hopefully encourage more to be undertaken. Crucially, implementing sustainable practices in projects is needed across the board. By mainstreaming climate change conscious thinking in all sectors, great strides can be made in reducing the impacts of global warming on society.

RECOMMENDATIONS FOR FUTURE STUDIES

This series of studies needs to continue to monitor the progress local government is making in the field of sustainable energy and climate change planning. The wider scope of sustainable energy and climate change projects should be used in further iterations of this study.

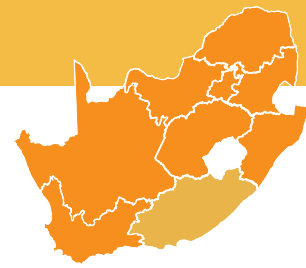
An extension of this study could follow up on the implementation of the projects planned by municipalities, possibly using direct contact with municipalities or analysing Section 71 reports indicating cash flows by municipalities.

Further studies stemming from this could include a deep analysis of the institutional structures within municipalities that have / have not planned climate change projects, thus helping to identify what internal changes can be made to increase the number of projects of this nature reaching fruition.



PROVINCIAL ANALYSIS

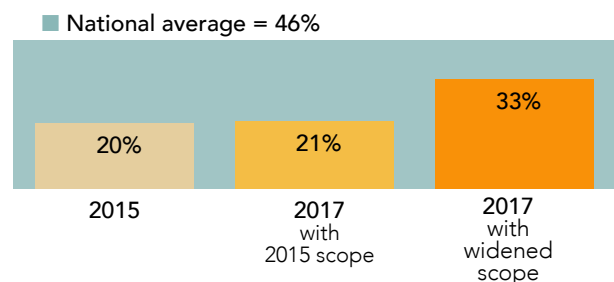




EASTERN CAPE

OVERVIEW

A third of the municipalities (13 out of 39) achieved TGP status within the Eastern Cape, slightly lower than the national average of 46%. This is still a big increase from 2015, when only 20% were TGPs. It must be noted that the increase is due to the widening of the scope of projects, which saw four local and one district municipality becoming TGPs. The reason the percentage but not the actual number of municipalities with TGP status increased, is due to the merger of many municipalities in the province. Both metros also once again achieved TGP status.



TGP breakdown by category of municipality (TGP = ■)



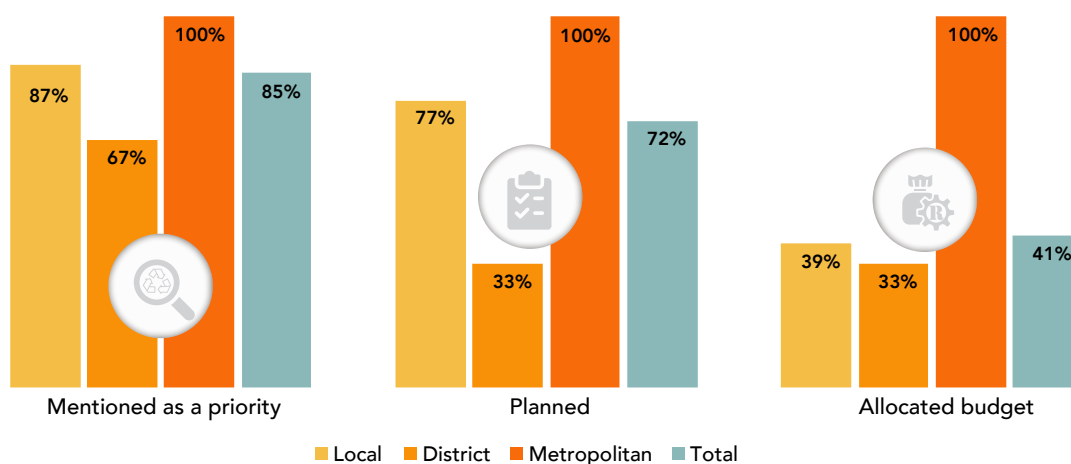
DETAILED ANALYSIS

- Only one of the six district municipalities was a TGP in 2017, identifying an area of improvement. This is significantly lower than national levels, where 41% of district municipalities were TGPs.
- More than 75% of municipalities have specified sustainable energy or climate change projects in their IDP. However, only 33% managed to achieve TGP status. This is due to only 28 out of 75 projects identified having funds allocated to them. This shows that there is a strong will from municipalities to help reduce greenhouse gases emissions and the effects of climate change, but they may struggle to find funds for projects of this sort. This could call for greater cooperation with the many IPP projects in the Eastern Cape.
- From a more energy-focused perspective, it was noted that nine municipalities do not have distribution licences. Of these nine, only one had a funded sustainable energy project. This could seem to indicate that these municipalities do not consider sustainable energy as their responsibility, as they do not sell electricity. This need not be the case, however, as many sustainable energy projects can be implemented even when the municipality concerned is not a distributor of electricity.
- It was also noted that none of the three newly formed municipalities were TGPs, which is understandable given the additional planning and administrative requirements of newly formed municipalities.

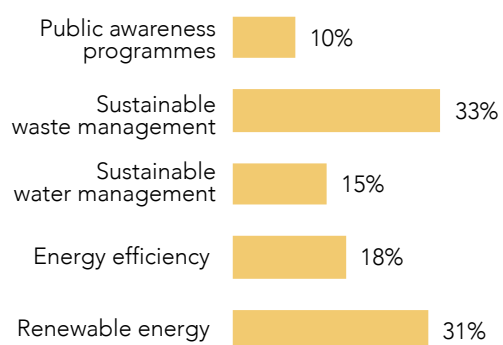
INTERESTING PROJECTS

- Ingquza Hills Local Municipality plans to provide 15 000 bicycles for schoolchildren. This will improve accessibility and mobility for learners who walk long distances to their schools. Pupils will have affordable transport that is reliable and sustainable.
- King Sabata Dalindyebo Local Municipality plans to conduct energy audits in its municipal buildings and their water works.
- Mhlontlo Local Municipality plans to construct a regional recycling facility.
- Nelson Mandela Bay Municipality, in partnership with SANEDI, has planned a smart grid initiative programme.
- Umzimvubu Local Municipality plans to provide solar energy to indigent households.

CLIMATE CHANGE / SUSTAINABLE ENERGY PLANNED

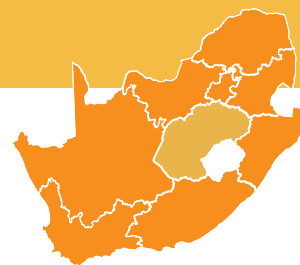


FIVE MOST FREQUENT PROJECT TYPES PLANNED



Jeffreys Bay Wind Farm

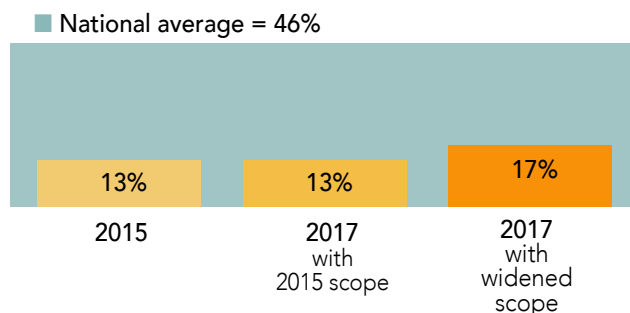




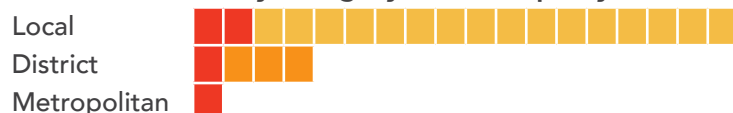
FREE STATE

OVERVIEW

The number of TGPs in the Free State increased slightly from 13% in 2015 to 17% in 2017, a total of four of the 21 municipalities. Only two of the 18 local municipalities achieved TGP status, indicating an area for potential improvement. The slight increase was due to an increase in the project scope.



TGP breakdown by category of municipality (TGP = ■)



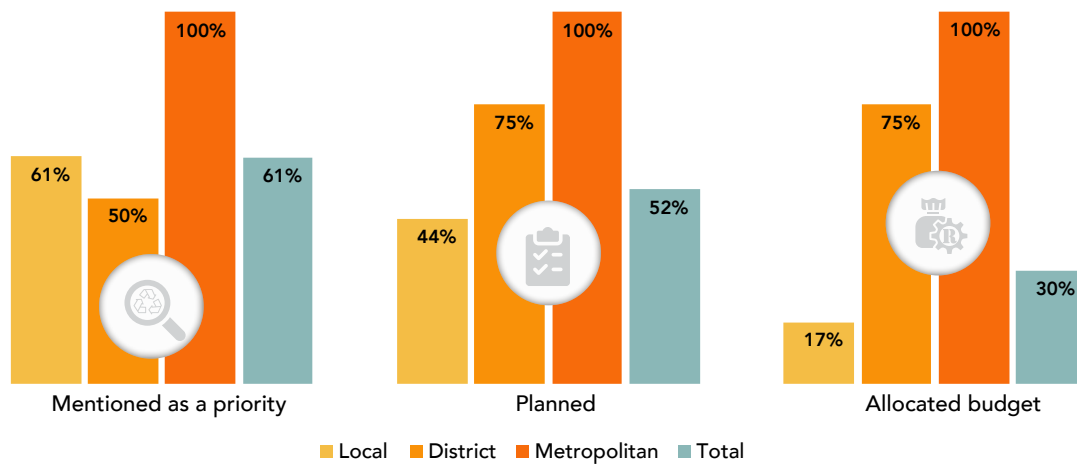
DETAILED ANALYSIS

- It was noted that there is a strong focus on sustainable energy within the province, with 13 out of 23 municipalities identifying it as a priority. This does not necessarily relate to projects being planned, however, as only eight projects are planned by six municipalities, with four being funded. Assistance with planning may be needed by these municipalities for these projects.
- There is a strong dependency on grants and partnerships in the province. The number of criteria met by four municipalities increased in 2017, in comparison to 2015, due to the new presence of a grant or partnership. However, in three municipalities the number of criteria met in 2017 decreased, as grants or partnership were no longer available.

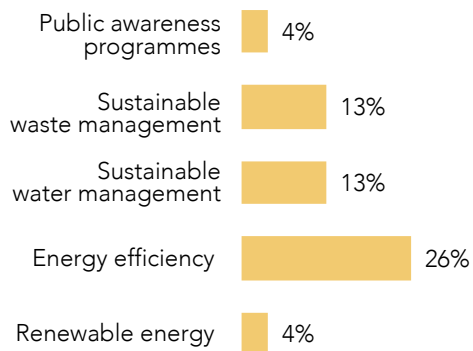
INTERESTING PROJECTS

- Matjhabeng Local Municipality plans to install 118 solar street lighting units in Kutlwanong.
- Lejweleputswa District Municipality has planned a cash-for-waste project.
- Moqhaka Municipality plans to implement a load control system and smart metering within its municipality.
- Setsoto Municipality is developing plans and providing equipment for drought mitigation.

CLIMATE CHANGE / SUSTAINABLE ENERGY PLANNED

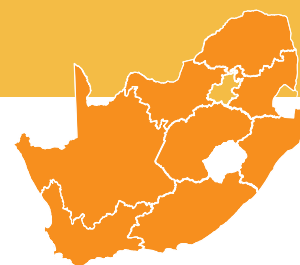


FIVE MOST FREQUENT PROJECT TYPES PLANNED



Streetlights retrofitted with energy-saving LED lamps

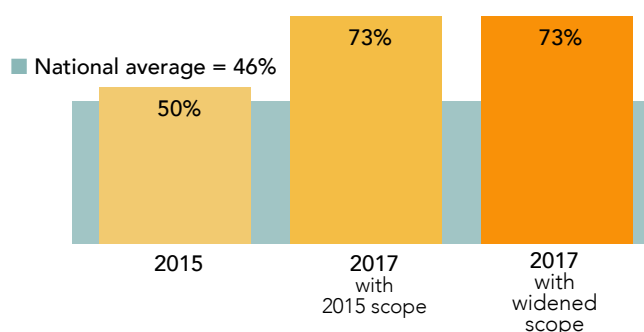




GAUTENG

OVERVIEW

Gauteng achieved the second-highest percentage of TGPs, with 73% (eight out of 11) of the municipalities achieving this status. This is an increase from 2015, when only half of the municipalities were TGPs. All of the metros and district municipalities now fulfilled all three criteria, with half of the local municipalities also doing so. Furthermore, this increase would have occurred even had the scope not been widened. This shows that Gauteng has a strong focus on sustainable energy and high-level climate change projects.



TGP breakdown by category of municipality (TGP = ■)



DETAILED ANALYSIS

- All municipalities mentioned sustainable energy or climate change as a priority, showing that the province places significant emphasis on combating global warming.
- More than 90% of the municipalities identified sustainable energy or climate change projects. Furthermore, funding sources have been found for almost three quarters of the projects. There is also a high focus on sustainable energy, as 73% of the municipalities have funded sustainable energy projects.
- Although better than other provinces, the area where this province can see the greatest improvement is projects having been allocated funds.
- The intent shown by the municipalities, along with the concentration of wealth within the region, has catalysed the uptake of sustainable energy and climate projects in the province.

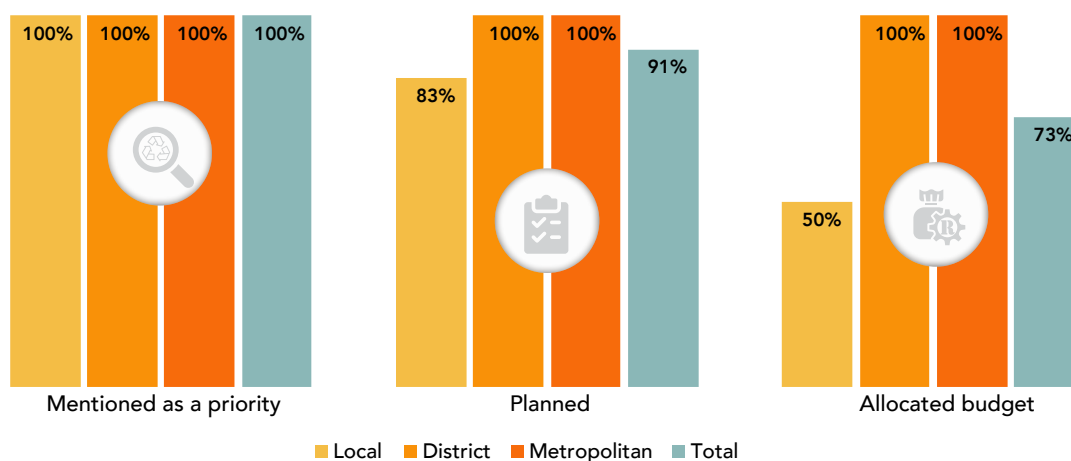
INTERESTING PROJECTS

- The City of Johannesburg plans to roll out smart metering infrastructure in different suburbs to

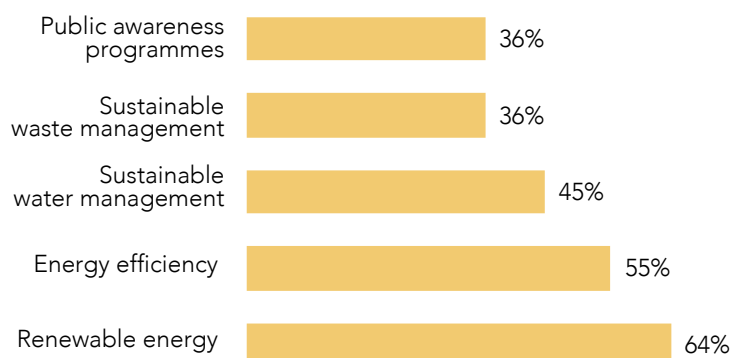
enable users and customers to be active participants in energy efficiency.

- The City of Johannesburg plans to install solar generators as backup electricity to health facilities.
- Merofeng City has planned feasibility studies for a solar farm cluster as well as a bio-energy eco-industrial park.
- West Rand District Municipality plans to retro-fit municipal buildings with energy-efficient systems.
- Sedibeng District Municipality plans to develop a waste-to-power plant facility.
- The City of Johannesburg plans to install solar generators as backup electricity to health facilities.

CLIMATE CHANGE / SUSTAINABLE ENERGY PLANNED

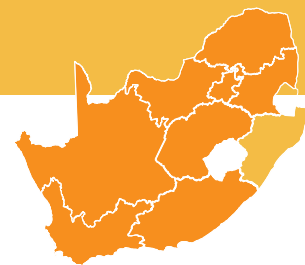


FIVE MOST FREQUENT PROJECT TYPES PLANNED



*Simmer and Jack landfill,
Ekurhuleni*

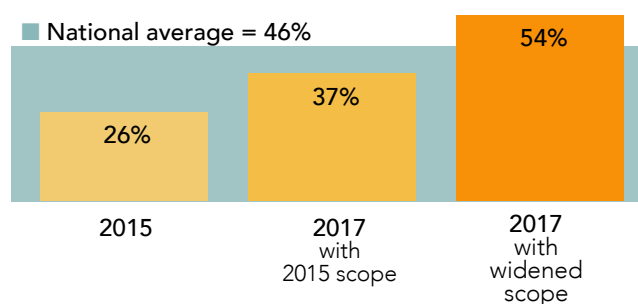




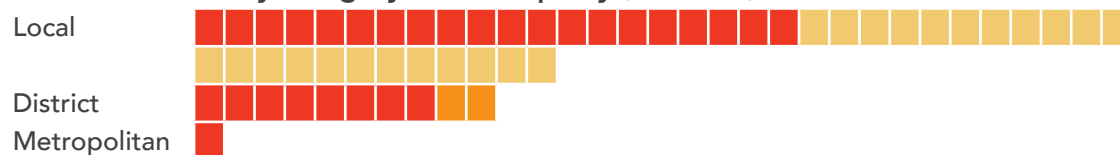
KWAZULU-NATAL

OVERVIEW

More than half of the province's municipalities met all three criteria and achieved TGP status (29 out of 54). The number of local municipalities achieving the status has doubled (from 10 to 20)! It was also noted that district municipalities play a strong role in combating climate change, with 80% being TGP.



TGP breakdown by category of municipality (TGP = ■)



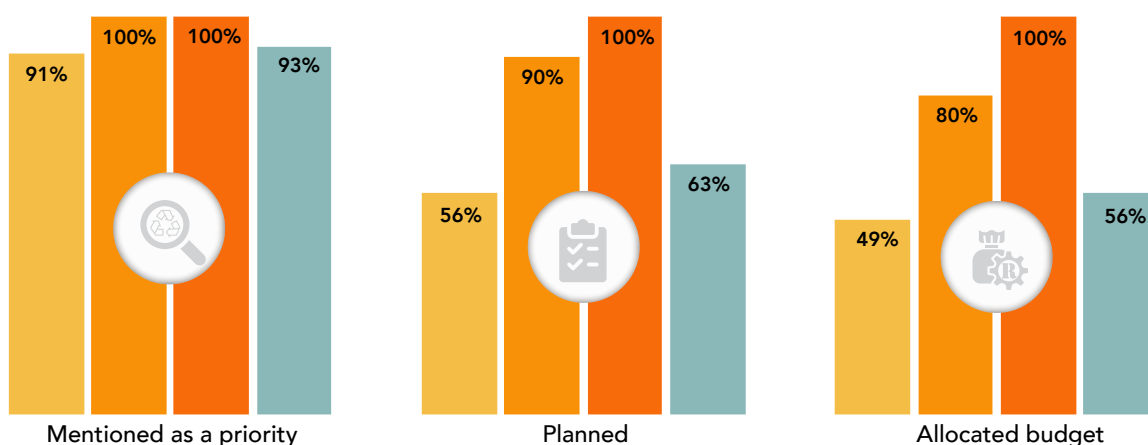
DETAILED ANALYSIS

- The improvement in the province can largely be attributed to the widening of the project scope in the 2017 study. A major focus on sustainable water and waste projects, rather than renewable energy projects, was seen in KZN. This could be because conditions for solar and wind energy are less favourable than in other provinces, although still very good for solar PV projects.
- It was seen that 19 municipalities showed a dependency on grants or partnerships within the province. The number of criteria met by the municipality either increased due to the presence of a grantor partnership in 2017 or decreased as a result of having lost a grant or partnership between 2015 and 2017.
- More than 90% of the municipalities recognise sustainable energy and climate change as a priority, showing great intent by the province to combat global warming.
- Of the 34 projects identified, 31 have funding allocated to them. The stumbling block for municipalities within this province may, therefore, be the identification of projects.

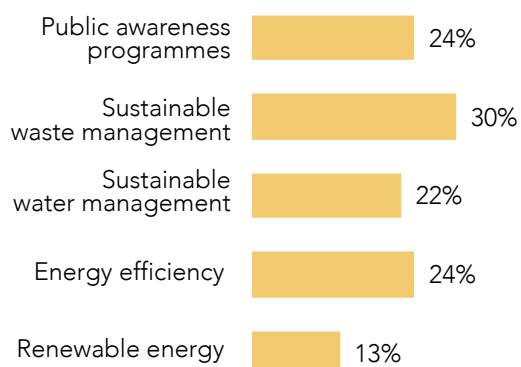
INTERESTING PROJECTS

- Kwadukuza Municipality has prioritised a school-based environmental education programme by supporting eco-schools and the Schools Environmental Education Programm in partnership with the Department of Economic Development, Tourism and Environmental Affairs.
- Kwadukuza Local Municipality is also greening low-income homes by supplying two fruit trees per household inclusive of compost and support materials for trees. The initiative is being funded by the Department of Agriculture and Environmental Affairs.
- Ethekewini Metropolitan Municipality intends to develop an alternative, energy-efficient vehicle pilot project.
- Amajuba District Municipality plans to install energy-saving lights in council houses.
- Umhlabuyalingana Local Municipality is supplying solar panels for families whose houses have burned down.
- Umfolozi Local Municipality plans to host a climate change impact community dialogue.

CLIMATE CHANGE / SUSTAINABLE ENERGY PLANNED

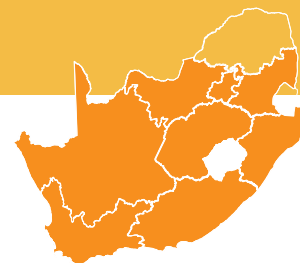


FIVE MOST FREQUENT PROJECT TYPES PLANNED



Landfill gas, Ethekewini

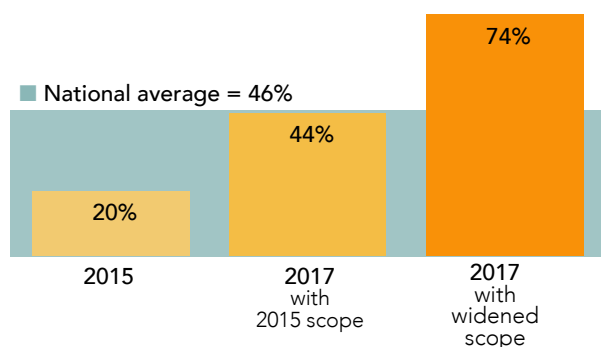




LIMPOPO

OVERVIEW

Limpopo has the highest percentage of municipalities that are TGP, increasing from 20% in 2015 to 74% in 2017. It is also the most improved province. A big increase in local municipalities meeting all three criteria (20% to 77%) helped the province achieve this.



TGP breakdown by category of municipality (TGP = ■)



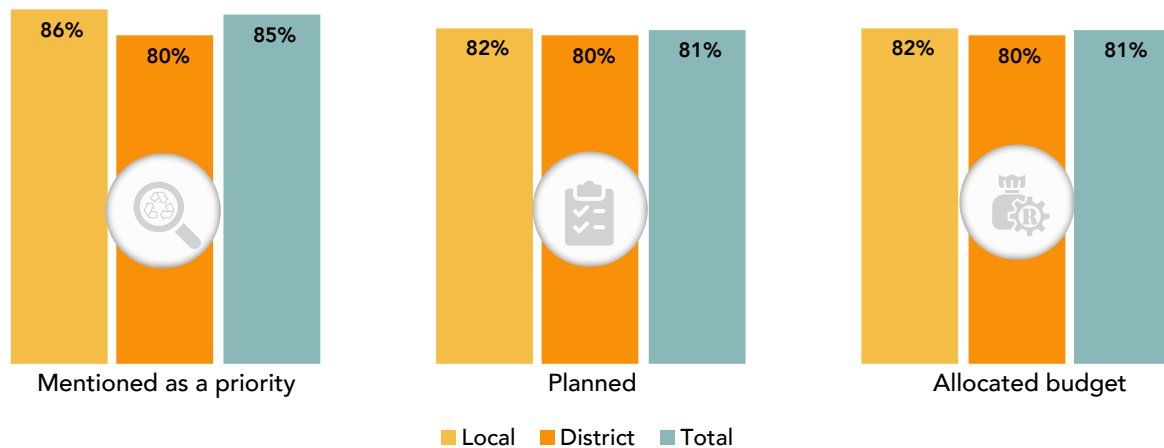
DETAILED ANALYSIS

- The broadening of the project scope played a large part in the increase in municipalities becoming TGPs. Should the scope have been maintained the number of municipalities achieving TGP status would have increased from 20% to 41%. This is still a large improvement!
- Once again this shows that sustainable energy projects are not the main focus of the province. More municipalities have identified water, waste and public awareness programmes.
- An extremely high 98% of projects planned have funding sources identified.

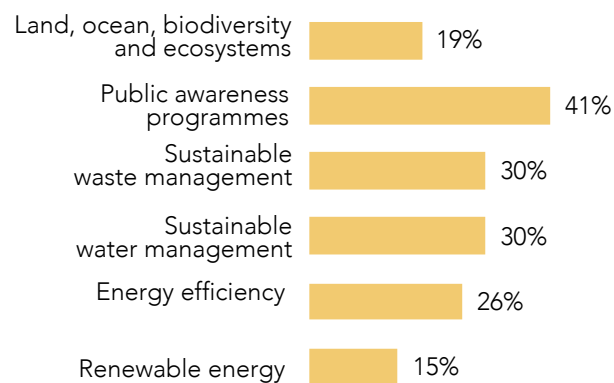
INTERESTING PROJECTS

- Capricorn District Municipality plans to provide biomass digesters, solar cookers and solar geysers to households and schools.
- Polokwane Municipality plans to install power factor corrections in substations to make the network more efficient.
- Musina Local Municipality plans to install energy-efficient lighting in municipal buildings.
- Collins Chabane Local Municipality plans to develop a water conservation and demand management strategy along with a water demand management project.
- Lepele-Nkumpi Local Municipality intends to provide solar energy to households as a form of energy access.

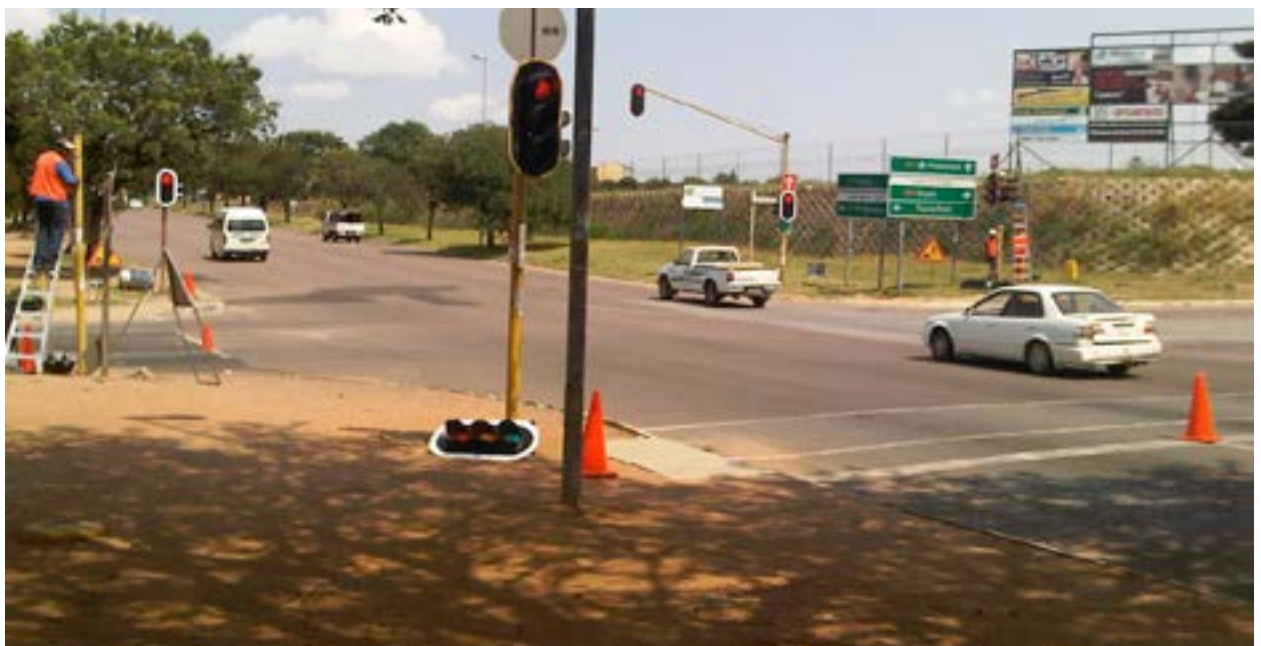
CLIMATE CHANGE / SUSTAINABLE ENERGY PLANNED

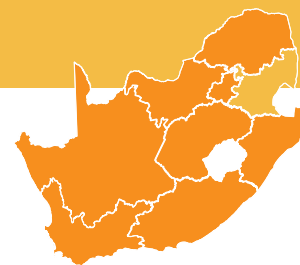


FIVE MOST FREQUENT PROJECT TYPES PLANNED



All traffic lights in Polokwane are now energy efficient (Source Polokwane Local Municipality)

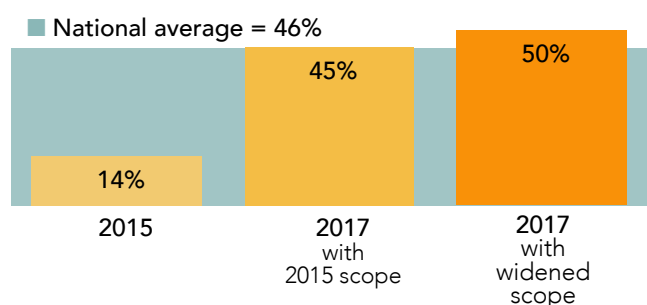




MPUMALANGA

OVERVIEW

In Mpumalanga, one out of two municipalities were found to be TGPs in 2017. This is a big increase from the 14% of municipalities being TGPs in 2015.



TGP breakdown by category of municipality (TGP = ■)



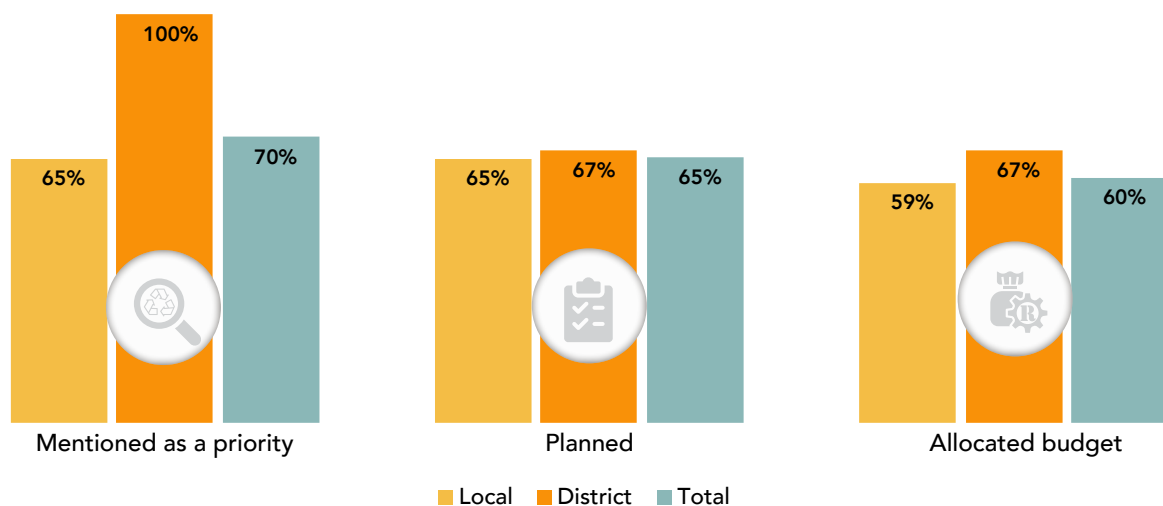
DETAILED ANALYSIS

- Increasing the scope of projects assisted only one of the municipalities in achieving TGP status. This shows that municipalities are primarily focused on sustainable energy projects, especially energy efficiency, in this province. This is followed by water and waste management as well as land and biodiversity projects.
- Three municipalities were in partnership with the Department of Energy to install solar water heaters in 2015. As a result of these projects no longer continuing, as well as no other projects being planned, the municipalities have fulfilled fewer criteria in the 2017 study.
- Various feasibility and planning studies were seen in the project list in this province, showing that municipalities are looking for ways to implement sustainable energy and climate change projects.
- An extremely high number of projects planned had budget allocated to them (94%), showing that municipalities can access the funds needed for sustainable energy or climate change projects.

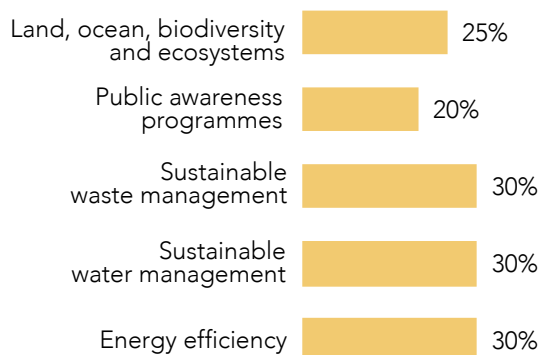
INTERESTING PROJECTS

- The district municipality of Nkangala is conducting feasibility and planning studies to help establish integrated green economy solutions within the district.
- Thaba Chweu Local Municipality plans to retrofit 4500 streetlights with energy-efficient bulbs.
- Mkhondo Local Municipality is providing training for municipal employees on environmental awareness.
- The City of Mbombela plans to supply and install 80 solar energy geysers.
- Emalahleni Local Municipality plans to plant 4000 trees to mitigate climate change.

CLIMATE CHANGE / SUSTAINABLE ENERGY PLANNED

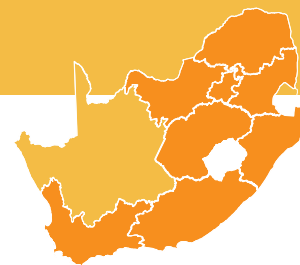


FIVE MOST FREQUENT PROJECT TYPES PLANNED



High mast lighting

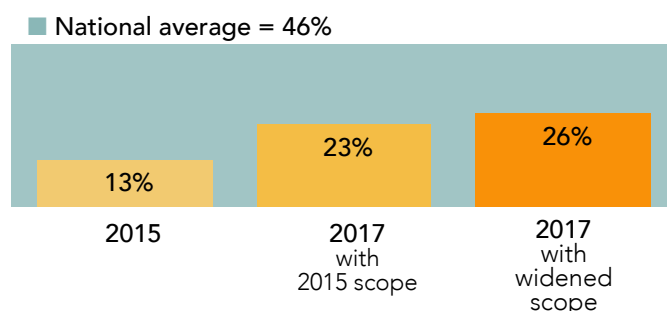




NORTHERN CAPE

OVERVIEW

An increase in municipalities meeting all three criteria was seen in 2017, with 26% (eight out of 23) of municipalities becoming TGP in comparison to the 13% seen in 2015. This is still below the national average of 46%, however.



TGP breakdown by category of municipality (TGP = ■)



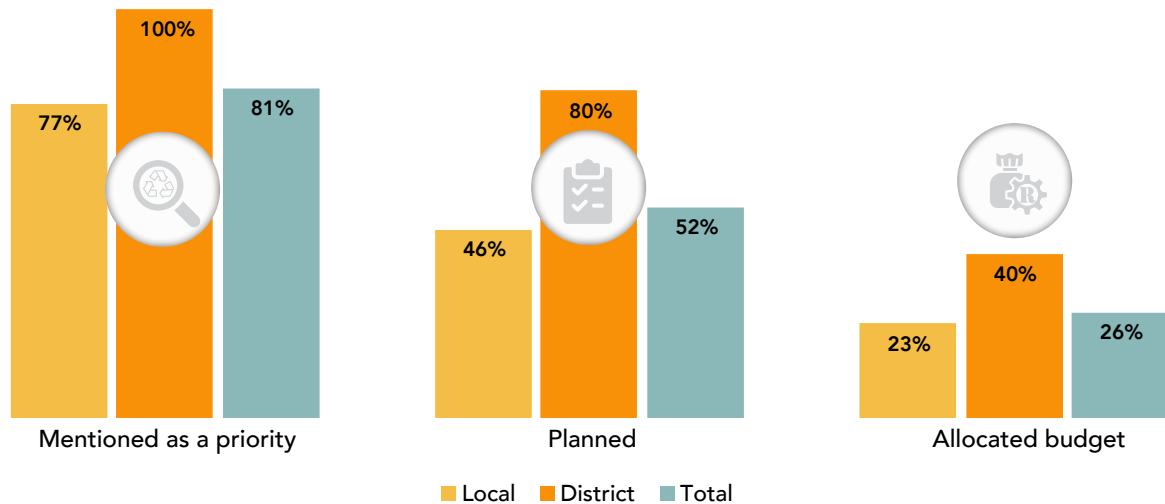
DETAILED ANALYSIS

- Over 80% of municipalities in the province showed intent to combat climate change. However, financing such projects seems to be a big problem, with less than 25% of projects having funds allocated to them. Almost all of these funded projects were sustainable energy projects, showing a high interest in energy in the province.
- The big presence of IPPs within the province may also have contributed to the lack of sustainable energy projects being implemented by municipalities.
- The IPPs are mandated to contribute towards socio-economic development within the region, meaning there is an opportunity to access funds and expertise to execute sustainable energy projects in municipalities from this region. This does not materialise, however, and there is often misalignment between IPPs and municipal IDPs.

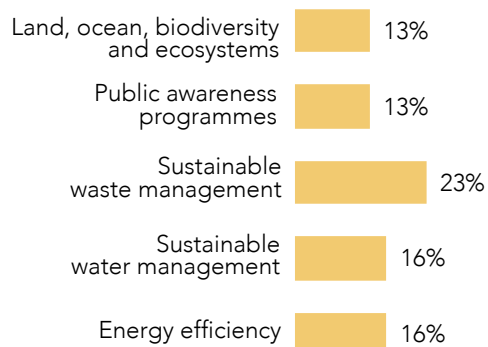
INTERESTING PROJECTS

- !Kheis Municipality is planning to develop policies to become an IPP for solar generation. The municipality is also supporting SMMEs to provide services to the IPPs in the area.
- ZF Mgcawu District Municipality plans to conduct research on better veld/land management practices.
- Emthanjeni Local Municipality intends to establish routes for cycling and pedestrians, prioritising non-motorised transport.
- ZF Mgcawu District Municipality plans to mainstream climate change into local municipality IDPs.
- Hantam Municipality intends to develop a business plan for marketing the municipal area as potential for solar energy.

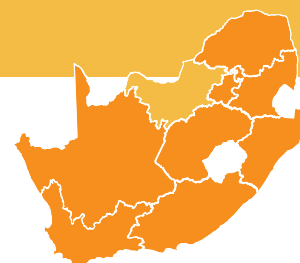
CLIMATE CHANGE / SUSTAINABLE ENERGY PLANNED



FIVE MOST FREQUENT PROJECT TYPES PLANNED



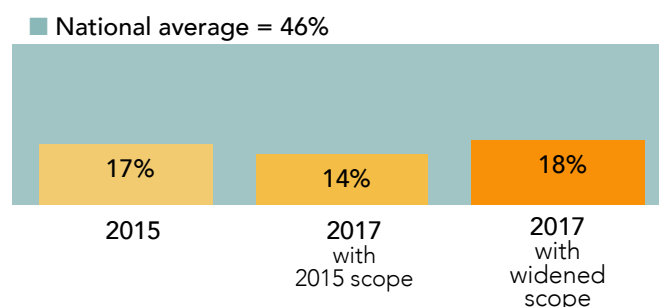
*Khi Solar One, Upington
(Glenn McCreath)*



NORTH WEST

OVERVIEW

In the North West, 18% of municipalities met all three criteria (four out of 18), a slight increase from the 13% of municipalities achieving TGP status in 2015. This province has the lowest percentage of municipalities being TGPs and reveals an area with great potential to increase climate change mitigation and adaptation efforts.



TGP breakdown by category of municipality (TGP = ■)



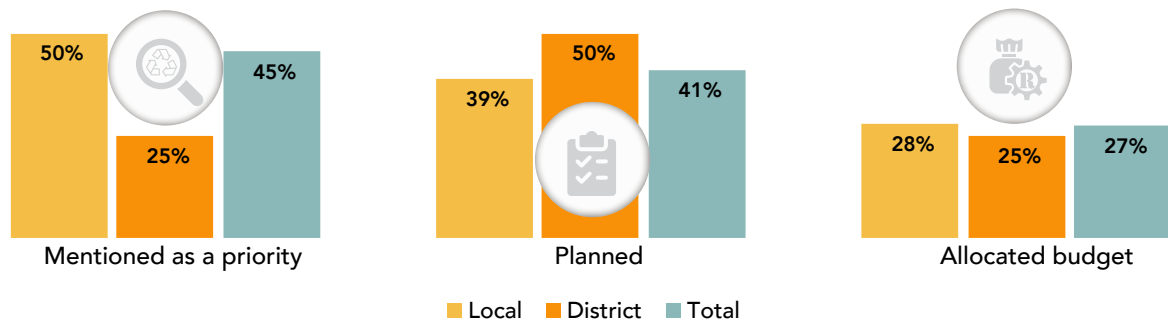
DETAILED ANALYSIS

- It was seen that only 45% of municipalities showed intent within their IDPs to help solve climate change, very low in comparison to the national level of 82%. This could mean that municipalities are not aware of the threat of climate change or believe they have more important problems to attend to.
- The municipalities that have planned projects have focused on sustainable energy and water management projects.

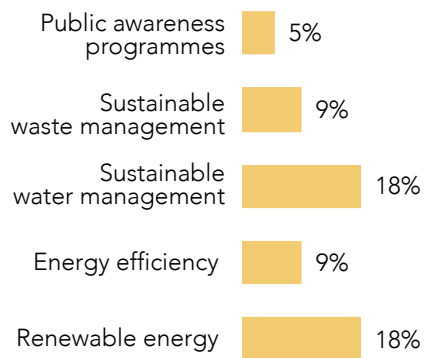
INTERESTING PROJECTS

- Greater Taung plans to install high-mast LED floodlights in various wards and villages.
- Dr Ruth Segomotsi Mompati district municipality plans to develop a renewable energy research park.
- Rustenburg municipality plans to explore the development of fuel cells with the Platinum Valley Special Economic Zone (SEZ). It also plans to develop a green technology township in Tsitsing.
- JB Marks Local Municipality intends to install 7500 energy-efficient street lights.
- Maquassi Hills plans to develop a buyback recycling centre.

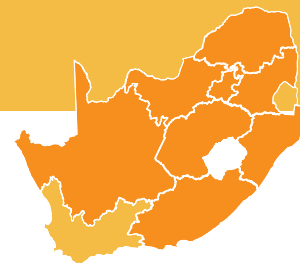
CLIMATE CHANGE / SUSTAINABLE ENERGY PLANNED



FIVE MOST FREQUENT PROJECT TYPES PLANNED



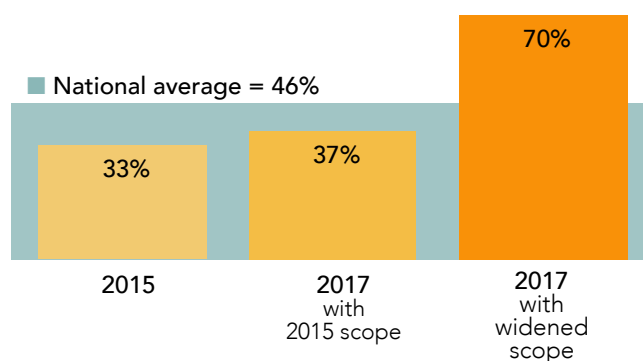
Wastewater treatment works, Tlokwe Municipality



WESTERN CAPE

OVERVIEW

In the Western Cape, 70% of municipalities fulfilled all three criteria and were TGPs. This is a large improvement from the 33% of municipalities achieving the status in 2015. This increase was due to the efforts by both local and district municipalities.



TGP breakdown by category of municipality (TGP = ■)



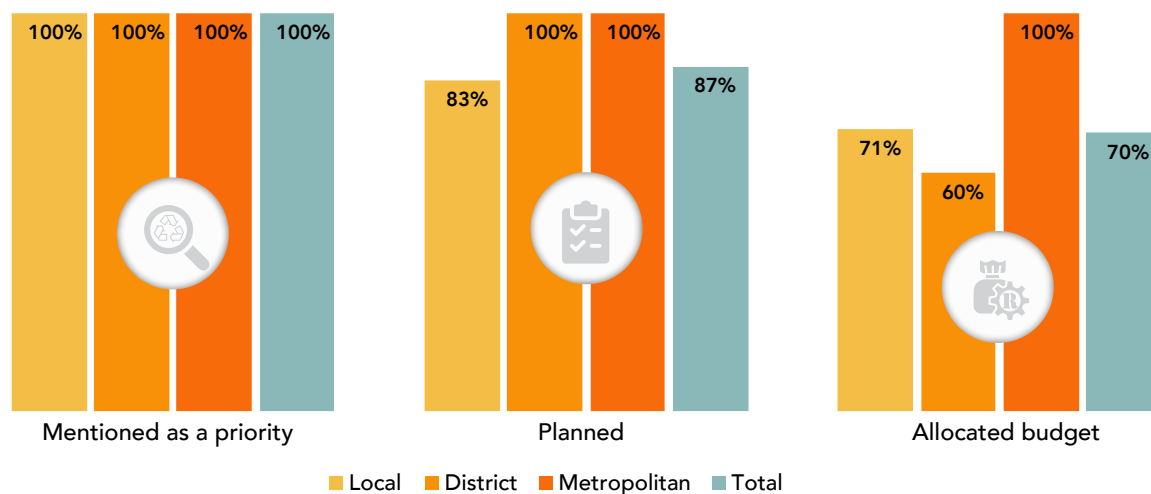
DETAILED ANALYSIS

- The widening of the scope of projects played a big role in the increase in TGPs from 2015 to 2017, as only 10 of the 30 municipalities would have achieved all three criteria should the project scope have been maintained. What this reveals is that many municipalities are implementing projects other than sustainable energy in order to combat climate change. Many municipalities have focused on waste and water management – understandably so, due to the drought within the province.
- The development of small-scale development generation processes by 18 municipalities within the province shows that these municipalities are willing to facilitate the uptake of renewable energy within the private sector. This, however, is not mentioned in the IDP.
- It was noted that *all* the municipalities indicated that sustainable energy and climate change is a priority, showing great intent by the province.
- More than 80% of projects had funds allocated to them.

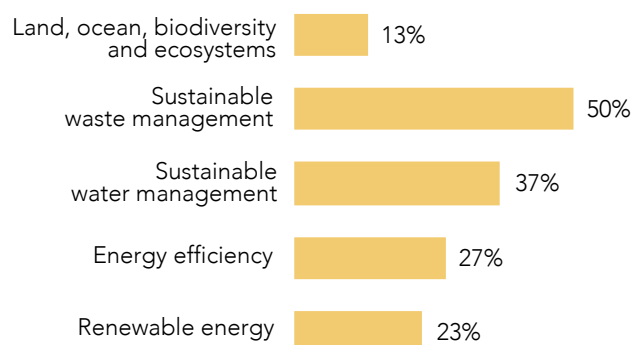
INTERESTING PROJECTS

- Beaufort West plans to establish a grey water recycling project to save water.
- Overberg Municipality plans to establish a cluster of vegetable and herb gardens to showcase a range of sustainable, eco-friendly practices.
- Cape Winelands District Municipality plans to provide solar systems to farmers for energy access.
- Stellenbosch Municipality plans to develop a landfill gas-to-energy project.
- Bergrivier plans to conduct training programmes for waste recycling.

CLIMATE CHANGE / SUSTAINABLE ENERGY PLANNED



FIVE MOST FREQUENT PROJECT TYPES PLANNED



Posters for an electricity-saving campaign in Cape Town

