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| NELSON MANDELA BAY MUNICIPALITY CLIMATE RESPONSE STATUS QUO REPORT |
| a Summary of the NMBM Climate Response Work for the period 2009 - 2013  **AUGUST 2013** |

**NELSON MANDELA BAY MUNICIPALITY CLIMATE RESPONSE STATUS QUO REPORT**

**A Summary of the NMBM Climate Response Work for the Period 2009 - 2013**

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**Date** 30 August 2013

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# PURPOSE OF THE REPORT

The retention of institutional memory is vital in the effectiveness and longevity of any organisation or programme. In an organization as big and complex as the Nelson Mandela Bay Municipality (NMBM), this is particularly important, and particularly hard.

Because the climate response work has not yet been translated into policy or concrete strategies and plans it was deemed necessary to capture the history of the work since the start of the coordinated effort in 2009 to date. This report thus aims to provide a concise overview of the NMBM’s climate change response planning, from when the Environmental Management Sub-Directorate, in cooperation with the Electricity & Energy: Projects Sub-Directorate, actively started addressing the issue of climate change.

# KEY FACTS ABOUT US

## GENERAL

There are currently approximately 1.1million residents living in Nelson Mandela Bay (NMB), a figure which is predicted to grow to an estimated 1.24million by 2020. The NMB coastline, which extends for about 90km alongside the Indian Ocean, is one of the city’s biggest assets. The area is situated in the transitional region between the summer rainfall of Kwazulu-Natal and the winter rainfall of the Western Cape, and is characterised by a warm temperate climate.

## CLIMATIC DATA

Limited data on climate change exist on fine scale for Eastern Cape and Nelson Mandela Bay. For much of the last decade the annual ambient temperatures were higher than the long-term average (which have been calculated using data collect since 1885), but it is difficult to attribute it to climate change as it is too erratic to be proved statistically in order to draw conclusions. The mean annual precipitation is 610mm, but can vary between places from 400mm to 1200mm. The annual precipitation shows a cyclical emerging trend. Rainfall and temperature data collected over a longer time period may be able to distinguish between natural cycles and climate change induced patterns. Natural rainfall cycles seem to be becoming more erratic, though.

## WATER

Nelson Mandela Bay has 11 influential rivers, with the Sundays and Van Stadens Rivers bordering NMB on the east and west respectively. The metropolitan area receives water from five major dams of which only one falls within the boundaries of the Metro i.e. Groendal dam. The inland water resources are under severe pressure. In addition to this NMB has effectively reached carrying capacity in terms of water availability vs. the demand for water, with the Coega IDZ a further major source of pressure on water resources.

## ENERGY

According to the 2010 Nelson Mandela Bay State of Environment Report the contribution of major energy carrier types to the total energy needs for the metropolitan area is as follows:

* + - 36% Electricity
    - 30% Petrol
    - 26.5% Diesel

The net migration of people into urban area of NMB is the major contributing factor to the increased energy needs within the metropolitan area through development, which brings with it increased transport and electricity needs.

## AIR QUALITY

The main sources of air pollution include industry, motor vehicle traffic, and methane from landfill sites. Nelson Mandela Bay is fortunate in that regular coastal onshore and offshore winds disperse high concentrations of pollutants. The Nelson Mandela Bay Municipality (NMBM) currently monitors the following gases – Sulphur dioxide (SO2), Nitrogen dioxide (NO2), Particulate matter (PM10), Ozone (O3), Carbon monoxide (CO), and Methane (CH4), with Methane being the only greenhouse gas currently measured.

## WASTE

During 2012 the NMBM recorded a total of 473 503 tons of waste to landfill. There are currently three licenced landfill sites within Nelson Mandela Bay of which two are municipal (Arlington and Koedoeskloof), and one privately run (Aloes). Only one waste site, Aloes, is licensed to accept hazardous waste.

As far as available landfill space is concerned, Koedoeskloof only has capacity till approximately 2015, while Arlington has capacity to receive waste till 2031 or 2037/2038, depending on whether they achieve a compaction rate of 750kg/m3 or 1000kg/m3 respectively. To date there has been sufficient landfill space which means that this has been the least costly waste disposal option. Should Koedoeskloof reach its capacity other waste disposal options might become financially viable.

## BIODIVERSITY

Nelson Mandela Bay is situated at the eastern extreme of the Cape Floral Kingdom, a global biodiversity hotspot which is predicted to be hit extremely hard by climate change. In addition to this Nelson Mandela Bay is the convergence point for five of the seven biomes found in South Africa. Over the years the NMBM have created a well-integrated Metropolitan Open Space System (NMB MOSS), which currently covers an area of 619km2 or 31.7%

## EXTREME WEATHER EVENTS

The NMBM area has been identified as one of four sensitive regions in South Africa that are highly vulnerable to storm damage driven by extreme weather events. Extreme weather events are an integral part of the city’s history. There has been a linear increase in number of floods over last century – since the early 1900’s the city has experienced 34 flooding events. In terms of droughts the emerging trend seems to be that droughts are experienced before and after flooding events. It is, however, difficult to conclude the relationship between extreme events and climate change due to the tremendous surface hardening from development over the years.

Approximately 30% (80 000) of dwellings within the metropolitan area are informal/backyard shacks which are highly vulnerable.

# INITIATION OF THE CLIMATE CHANGE WORK

## INTRODUCTION

Climate change, as a result of human activities, is one of the most serious global environmental problems facing the world today. The earth’s atmosphere is currently warming at the fastest rate in recorded history, a trend that is projected to cause extensive damage to forests, marine ecosystems, biodiversity and agriculture. The change in weather patterns that Nelson Mandela Bay has experienced the last couple of years, evident in the increase in floods and number of coastal storm events, coupled with the electricity shortage experienced during 2008, has focused attention on the need for facing, and addressing the reality of climate change. The international community agreed to address this problem in a global manner by drafting the United Nations Framework Convention on Climate Change and the subsequent Kyoto Protocol. South Africa ratified the Convention on 29 August 1997, and agreed to it in 2002 ([www.environment.gov.za](http://www.environment.gov.za)).

Ratifying the Convention had direct consequences for South Africa in terms of activities that we are obliged to perform. South Africa ratified the Convention as a non-Annex I country (i.e. developing country), which means that it is not obliged to adhere to the more demanding commitments placed on developed countries (or Annex 1 countries) to the Convention, but it is obligated to be involved in all international climate change negotiations. South African environmental legislation and policies supports a proactive approach in formulating a climate change policy. A proactive approach to climate change allows for early mitigation action, adaptation plans and improvement of knowledge. In addition it will give us time to prepare for meeting greenhouse gas reduction targets when they are imposed on developing countries. We are also currently in a position where we can trade the gains profitably with Annex I countries i.e. developing countries ([www.environment.gov.za](http://www.environment.gov.za)).

As the sphere of government closest to people and the natural environment, local government’s response to climate change is becoming increasingly more essential in the fight against the single most significant environmental problem in the world today i.e. global warming and climate change. As the local authority, it is the responsibility of the NMBM to provide direction and strategy in order to ensure the responsible management of the natural resources within Nelson Mandela Bay. Coupled with this the NMBM is also responsible for service delivery. Climate change is threatening both our natural resources as well as the rendering of essential services such as the provisioning of water and electricity, as well as infrastructure. The NMBM should recognise the global nature of climate change and acknowledge and aim to support the responsibilities and efforts of all spheres of government and all other relevant role players in responding to the issue. In addition to this the NMBM also need to recognise the need for planning more sustainable approaches to energy production and to minimise the harmful and negative impacts of climate change on vulnerable communities and ecosystems.

It is becoming essential for the NMBM to establish a strategy that (a) aim to reduce the man-made causes of climate change, and (b) to identify sectors, communities and ecosystems most vulnerable to the impacts of climate change and to develop response plans in order to minimise these impacts. This can be achieved effectively through the integration of mitigation and adaptation measures into core NMBM functions. Additional benefits will include improved service delivery and financial stability in NMBM operations, improved air quality, greenhouse gas reduction and the promotion of socio-economic development through the establishment of economies based on renewable resources and alternative technologies.

Though the NMBM has a relatively low carbon emission rates as compared to other major cities in South Africa, it is aware of its obligation to access and harness local potentials and opportunities to maintain low carbon levels and adapt to related negative environmental impacts as a contribution to national and international efforts to mitigating global warming. It recognized the need for planning more sustainable approaches to their energy production and use, to promote economic development and meet social needs while reducing local and global environmental impacts of climate change. In parallel with these efforts, the NMBM has sought to initiate and implement a host of climate change and energy activities, mostly carbon emission reduction and renewable energy related e.g. a wind farm pilot project operating under the Central Energy Fund (CEF), a solar water geyser project, the Swartskop Low Income Housing Initiative, a methane from landfill gas extraction project, and the popular Bus Rapid Transport (BRT) system are all in various phases of implementation at moment.

## BACKGROUND

At the point where the NMBM started coordinating climate response efforts its various sub-directorates a number of plans have already been developed in an attempt to address various natural resource aspects i.e. NMB MOSS Conservation Assessment and Plan, Integrated Electricity Plan, Coastal Management Plan, and an Integrated Transport Plan. For these plans to be effective in addressing and mitigating the causes and consequences of climate change, they need to be coordinated in a manner that identifies those areas within, and aspects of them relevant to climate change.

During the first half of 2009 the NMBM started engaging in discussions with the City of Cape Town and Sustainable Energy Africa (SEA), as well as with Ethekwini Municipality. A good relationship has been established with all these organisations. Subsequent to an analysis of the institutional structures established within the various Metropolitan municipalities throughout South Africa in order to address issues around climate change and energy, and drawing from their experiences in dealing with climate change and energy matters, a proposed structure was developed for the NMBM (see Figures 1 - 3).

**Environmental Management Sub-Directorate**

**Assistant Director**

Environmental Planning & Development

**Project Officer**

**Secretary**

**Manager**

Environmental Education

**Assistant Director**

Climate Change & Energy

**Assistant Director**

Coastal Management

**Assistant Director**

Conservation Operations

Figure 1: Location of Climate Change and Energy Unit within NMBM Organogram

Following discussions with the City of Cape Town, Ethekwini and ICLEI Africa, it was decided to formally identify areas of common interest and concern between the major coastal municipalities (NMBM, City of Cape Town, Ethekwini, Buffalo City and Richards Bay) with regards to the unique adaptation measures required along the coastline. ICLEI Africa conducted the study and drafted the report.

**Coordinator**

Policy & Strategy

**Coordinator**

Implementation

**Coordinator**

Energy

**Administrator**

**CLIMATE CHANGE AND ENERGY MANAGER**

Figure 2: Composition of Climate Change and Energy Unit

**Cluster Committee:**

Social Development

**Cluster Committee:**

Corporate Governance

**Cluster Committee:**

Service Delivery

Office of COO (Chair)

**Management Committee**

(*MM & Executive Directors*)

**Mayoral Committee**

(*Political representatives*)

Electricity & Energy

Infrastructure & Engineering

Climate Change & Energy

Housing & Land

Public Health

Electricity & Energy

Infrastructure & Engineering

Disaster Management

Housing & Land

Public Health

Climate Change & Energy

Office of CFO

**MDTTT**

**(Multi-Disciplinary Technical Task Team)**

**Climate Change & Energy Committee**

Figure 3: Proposed Institutional Mainstreaming Structures

## INITIAL PROPOSAL

The general consensus amongst the officials involved at the time was that the long-term objective is to establish a permanent institutional structure that will coordinate all and energy matters within the NMBM and Nelson Mandela Bay. In considering how to best proceed in terms of successfully institutionalising climate change and energy matters it was realised that, due to the processes and procedures that will need to be followed (in particular Human Resource and the securing of sufficient funds), it will take time to establish an official unit within NMBM. Additionally, Climate Change is a relatively new issue in South Africa, and the NMBM currently does not have, within its ranks, staff with the necessary skills, experience and knowledge regarding climate change. It was thus seen appropriate to follow a phased approach in terms of institutionalising climate change and energy interventions within the NMBM.

### **PHASE I**

#### Proposed Process

Phase 1, which was for a period of three years (2010/11 – 2012/13), were to focus on the planning and coordination of the roll-out of climate change mitigation and adaptation response plans, including, amongst others, the search for external funding for the commissioning of various baseline studies, the establishment of a Climate Change and Energy Committee, as well as the inclusion of climate change and energy matters unto the agendas of the various Cluster Committees and the MDTT. Key to all of this was the appointment of a project team (ideally located internally), consisting of a Project Manager and Project Coordinator.

The plan regarding the project team was to appoint a highly experienced Project Manager, supported by a Coordinator, with the relevant knowledge and understanding of NMBM systems and processes. The Project Manager would have had to be sourced from outside the NMBM to ensure the relevant knowledge and experience, while the Coordinator were to be sourced internally in order to ensure a person who is well acquainted with the NMBM systems and processes.

The main duties of the Project Manager were to:

1. *Establish a permanent Climate Change and Energy unit within the NMBM*. The proposed composition of the unit comprised of as follows: 1 Assistant Director, 3 Coordinators (Policy & Strategy; Implementation; and Energy) and 1 Administrator. It was decided that the first of the Coordinators will be appointed concurrently to the Project Manager in order to provide support and knowledge of the institutional workings of the NMBM. The rest of the unit will be appointed on recommendation from the Project Manager.
2. *Develop and capacitate the Coordinator (s)*. The intention is to ensure institutional memory and ability to allow a seamless integration in the new directorate on expiry of the project manager’s contract.
3. *Ensure the necessary assessments as well as the development of a Climate Change and Energy Strategy for the Nelson Mandela Bay*. The required baseline assessments (Greenhouse Gas Emissions Inventory, Integrated Resource Utilisation Audit, Long Term Scenario Projection, and a Vulnerability, Mitigation and Adaptation Assessment) and the Strategy will be commissioned once the1 Project Manager and Coordinator has been appointed. The Project Manager will be responsible for commissioning and managing the necessary assessments, the development of the strategy, as well as the necessary action plans, and the implementation thereof.

Beginning 2010 the NMBM, with the assistance of PriceWaterhouseCoopers (who was appointed by the NMBM to help source and manage donor funding), started investigating and identifying potential donor funders and submitting project proposals to them.

The proposed Climate Change and Energy Committee were to ensure the effective institutionalisation and mainstreaming at a strategic level. The plan was for the steering committee to be chaired by the COO, with the following Directorates / Sub-Directorates represented on the committee:

1. Office of the Chief Financial Officer (CFO)
2. International and Intergovernmental Relations
3. IDP: GIS
4. Public Health: Environmental Management
5. Electricity & Energy: Projects
6. Housing & Land: Housing Delivery
7. Housing & Land: Land Planning and Management
8. Infrastructure & Engineering: Design and Implementation
9. Infrastructure & Engineering: Roads, Stormwater and Transportation
10. Infrastructure & Engineering: Water and Sanitation
11. Safety & Security: Disaster Management

The function of the Climate Change and Energy Committee would have been to drive the effective integration and delivery on all climate change and energy matters in Nelson Mandela Bay, and to assist and report to the Executive Mayor on the following functional areas:

1. Reduction in carbon emissions and pollution
2. Building resilience to climate change impacts
3. Energy security for Nelson Mandela Bay
4. Renewable and non-renewable energy resources
5. Energy efficiency and demand management

#### APPROVAL OF PROPOSAL

In April 2010 the NMBM Management Team approved the proposed institutionalisation process with several resolutions. Refer to Table 1 for the current status quo of the various resolutions.

Table 1: Implementation of Resolutions

|  |  |  |
| --- | --- | --- |
| RESOLUTION | | STATUS AT END OF PROJECT PERIOD |
| 1 | Approve the proposed structures in respect of the institutionalisation of climate change and energy interventions within the NMBM | The structures were approved, and would have been implemented through the new organogram for the NMBM. The approval of the new organogram, however, was withdrawn. |
| 2 | Appoint a Project Team, consisting of a Project Manager and Project Coordinator, before the end of the 2009/10 financial year to establish a functional structure | In order to appoint a project manager and coordinator on contract basis the Corporate Services Directorate would need to create contract positions and accompanying job descriptions for these. This takes time. In light of time constraints when the EMS coordinator (who was responsible for the coordination of the climate change work) resigned the NMBM needed to appoint a project manager immediately. At that stage Africoast Engineers had an existing appointment with the Electricity & Energy Directorate to coordinate the roll-out of energy efficiency projects for the NMBM, which could be extended to include the coordination of climate response interventions.  Subsequent to this appointment the original plan of appointing a project manager and coordinator on a contract basis was replaced with efforts to include a permanent climate change coordinating unit in the NMBM’s organogram. To date neither of these efforts have been successful. |
| 3 | Establish a Climate Change and Energy Committee | From the start the difficulty with this has been the fact that there isn’t an institutional home for climate change coordination yet, and no official mandate. This made it difficult to establish an official, formal structure to oversee the climate change work. |
| 4 | Corporate Services Directorate to investigate the required positions for the Climate Change and Energy Unit and make recommendations accordingly | This was never done. |
| 5 | Include the climate change related work and positions in the budget process for 2010/11 | Due to insufficient funds the climate change work could not be included in the budget process. |
| 6 | Utilise interim internal funding for the Human Resource and operating costs of the Project Team | The funding for the three year project management contract was provided by Electricity & Energy: Projects using their Contracts vote. |
| 7 | Launch an awareness campaign for political leaders and officials of the NMBM | There was never an official awareness campaign, but various information sharing opportunities in the form of workshops were created during the project period. |

#### AIMS AND OBJECTIVES OF THE PROJECT

The aim of the roll-out of climate change mitigation and adaptation response plans for Nelson Mandela Bay was to enable the city to minimise its emission of greenhouse gases, utilise natural resources in a responsible manner, and to adapt to the impacts caused by changes in the climate.

##### PRIMARY OBJECTIVES

1. Assess the current situation in Nelson Mandela Bay in terms of vulnerability to climate change and the effects thereof, efforts required in order to mitigate, or adapt to the effects of climate change, greenhouse gas emissions and resource usage
2. Ensure the human and financial resources in order to effectively coordinate and manage initiatives towards addressing climate change within Nelson Mandela Bay
3. Develop a climate change and resource management strategy for Nelson Mandela Bay
4. Develop sector plans which will guide the implementation of sector-specific climate change mitigation and adaptation interventions
5. Provide training and awareness for relevant NMBM officials and politicians around the issue of climate change

##### SECONDARY OBJECTIVES

1. Build municipal capacity to drive climate change and related natural resource management initiatives
2. Harmonize climate change and resource management strategies into developmental initiatives within the NMBM
3. Establish clear liaison between climate change and natural resource issues and local governance, livelihood, environment and socio-economic systems
4. Establish functional public-private partnerships and networks in order to address climate change holistically
5. Develop and manage public knowledge and awareness base for the municipality on climate change and resource issues

### **PHASE II**

#### Proposed Process

Phase II (2012 onwards) would have included the establishment of a permanent Climate Change and Energy unit within the NMBM (refer to Figure 1), and the continued institutionalisation of climate change and energy matters. It was agreed that initially the unit will be best located within Public Health: Environmental Management Sub-Directorate (refer to Figure 1), but under the guidance of the proposed Climate Change and Energy Committee (refer to Figure 3).

## ACTUAL ROLL-OUT

### **PHASE I**

The Environmental Management Systems (EMS) Coordinator for the NMBM was the main person responsible for coordinating the climate change work from its inception to the point where a project team/lead consultant was appointed. In light of the resignation of the EMS Coordinator the NMBM and the fact that it was not possible at the time to appoint the project team as per the original proposal, the NMBM appointed Africoast Engineers SA (Pty) Ltd as project manager/lead consultant for the planning and roll-out of climate response and energy interventions for the NMBM. The appointment was for a period of three years in anticipation of the approval of the new NMBM organogram, including the various new climate change coordination positions within the NMBM. The organogram was approved, but to date the Environmental Management Sub-Directorate have not obtained approval and budget for the filling of the climate change positions.

No external funding could be secured for the commissioning of the baseline studies, but towards the end of 2012 the NMBM was selected to participate in a number of programmes (in particular the 2013-2016 NMBM-Gothenburg partnership project, and the ICLEI Urban-LEDS, V-NAMA and Surewater4Africa programmes) that will facilitate the gathering of information and data towards various of the baseline studies.

### **AIMS AND OBJECTIVES OF THE PROJECT**

The aim of the roll-out of climate change mitigation and adaptation response plans for Nelson Mandela Bay was to enable the city to minimise its emission of greenhouse gases, utilise natural resources in a responsible manner, and to adapt to the impacts caused by changes in the climate. A list of primary and secondary objectives was developed at the start of the climate response planning process. Refer to Table 2 for the progress made regarding each objective.

Table 2: Progress on Project Objectives

|  |  |  |
| --- | --- | --- |
| OBJECTIVE | | STATUS AT END OF PROJECT PERIOD |
| Primary Objectives | | |
| 1 | Assess the current situation in Nelson Mandela Bay in terms of vulnerability to climate change and the effects thereof, efforts required in order to mitigate, or adapt to the effects of climate change, greenhouse gas emissions and resource usage | One of the baseline studies that was included in the proposal was a vulnerability assessment for Nelson Mandela Bay. Neither internal nor external funding could be secured for conducting the study. During the planning for the final year of the lead consultants contract a reviewed budget was submitted in light of the additional support to be given to the NMBM on the Gothenburg partnership and ICLEI Urban-LEDS programme. The Gothenburg project proposal in particular focuses on, amongst others, understanding the vulnerability of the city to changing weather patterns. Although the approved budget did not allow for a full vulnerability assessment it did allow for the lead consultant to draw up a framework for such an assessment locally, and conduct a thorough GAP analysis of existing information versus required information. |
| 2 | Ensure the human and financial resources in order to effectively coordinate and manage initiatives towards addressing climate change within Nelson Mandela Bay | The new organogram for the NMBM, which incorporated a new climate change unit under the Public Health: Environmental Management Sub-Directorate, was approved in DATE. In DATE, however, the organogram was rejected and a new one will now have to be drafted. Only once an organogram is in place, and the new unit have been allocated a budget, can the new positions be filled. |
| 3 | Develop a climate change and resource management strategy for Nelson Mandela Bay | This would have followed the completion/availability of the various baseline studies that were included in the proposal. In light of these not being available the lead consultant, in consultation with the Environmental Management Sub-Directorate, started drafting a Climate Response Guideline for the NMBM. Due to the various programmes that the NMBM were included in towards the end of 2012 the lead consultant was advised to re-work the existing information into a climate response guideline framework that can be used to inform the two key programmes (Gothenburg partnership as well as the ICLEI Urban-LEDS programme). |
| 4 | Develop sector plans which will guide the implementation of sector-specific climate change mitigation and adaptation interventions | Started with this in the form of the NMBM Climate Response Guideline. Due to capacity constraints the process was halted. |
| 5 | Provide training and awareness for relevant NMBM officials and politicians around the issue of climate change | There was never an official awareness campaign, but various information sharing opportunities in the form of workshops were created during the project period. Refer to Table 3 for a list of all the workshops. |
| Secondary Objectives | | |
| 1 | Build municipal capacity to drive climate change and related natural resource management initiatives | There was never an official awareness campaign, but various information sharing opportunities in the form of workshops were created during the project period. Interaction with officials has also brought a measure of awareness creation and capacity building. |
| 2 | Harmonize climate change and resource management strategies into developmental initiatives within the NMBM | The main drive was to include climate response considerations into the integrated development planning process and the associated performance management system and service delivery budget implementation plans, coordinated through the Office of the COO, where all of the aforementioned processes reside. The Office of the COO have, however, not agreed to take on this coordinating roll. |
| 3 | Establish clear liaison between climate change and natural resource issues and local governance, livelihood, environment and socio-economic systems | - |
| 4 | Establish functional public-private partnerships and networks in order to address climate change holistically | In August 2011, subsequent to discussions between the Nelson Mandela Bay Business Chamber and the NMBM, the NMB Business Chamber established the Environment and Greening Business Task Team, subsequently renamed as the Greening Business Task Team. The objective of the task team is to bring together key roleplayers within the city to drive the greening of businesses within the city. |
| 5 | Develop and manage public knowledge and awareness base for the municipality on climate change and resource issues | Beginning 2013 an unofficial city-wide initiative was launched around 6 ideas that could create a unique identity for the city and in doing so change this city for the good over the next 20 years. One of these ideas focus on seeing Nelson Mandela Bay established as a green city. The initiative has subsequently been incorporated into the mandate of the business chamber’s Greening Business Task Team. The first action item regarding the green city initiative is the development of a green dashboard of stories to tell, through a branding campaign, of what is unique to the city. The hope is to use the initiative to mobilise a greater voice and platform for influence within the city, both at a public and private level. |

Table 3: NMBM Climate Response Information Sharing Opportunities

|  |  |  |
| --- | --- | --- |
| **WORSKHOP** | **ORGANISER** | **DATE** |
| Changing the Climate Dialogue | WESSA-EP | 6 September 2011 |
| NMBM Climate Change Information Sharing Workshop | NMBM: Environmental Management | 20 September 2011 |
| NMB Climate Response Seminar | NMBM: Environmental Management | 17 November 2011 |
| NMB COP17 Feedback Session | NMBM: Environmental Management | 22 March 2012 |
| Green Hour Expo | KingfisherFM and Kings Court Shopping Centre | 18 – 19 May 2013 |

## COORDINATION OF THE CLIMATE RESPONSE WORK

During 2009 and 2010 the climate response work was coordinated by the Environmental Management Systems Coordinator (under the supervision of Director: Environmental Management). From September 2010 till August 2013, subsequent to the resignation of the Environmental Management Systems Coordinator, Africoast Engineers was appointed to coordinate the climate response work, under supervision of Director: Environmental Management and Director: Electricity & Energy Projects.

## CHALLENGES WITH INITIAL PROPOSAL

With the initiation of the climate response work there were a number of prominent challenges which have persisted.

1. Lack Of Understanding Of The Local Relevance Of Climate Change

Up until mid-June 2013 the NMBM was not able to commission any climate change specific baseline study which could be used in informing climate response planning, and more importantly, to create awareness and understanding regarding the potential local impacts of climate change. As a result it has been challenging to get NMBM sub-directorates and directorates to start incorporating climate response considerations into their planning.

The development of a climate response guideline for the NMBM was thus subsequently incorporated into the project plan during its review in 2011. The primary aim of the guideline is (a) to clarify the link between key municipal activities and climate change, and (b) highlight sustainability goals related to these activities, and (c) identify response interventions required for each of the activities.

1. Budget Constraints And Subsequent Inability To Appoint Internal Coordinator

Since the start of the climate change work within the NMBM the lack of budget has been a major barrier to the effective planning and roll-out of climate response interventions. The funding for the project team was provided by the Electricity & Energy: Projects sub-directorate. At the time of this report there was no follow on strategy for phase II of the project, with no project team and associated budget.

1. Inability To Secure External Funding For Baseline Studies

The funding as referred to in the previous section was limited and only covered the project management component of the three year contract. In order to do the planned baseline studies external funding would have to be sourced. To date the project team has not been able to secure any funding for these studies.

1. Absence Of Institution-Wide Coordination And Monitoring

Climate change is an issue that cuts across all directorates and that needs to be addressed at an institution-wide level. It is thus impossible for one directorate to take full responsibility for it. In August/September 2011 the project team had discussions with the Office of the COO regarding the central coordination of climate change from this office. The general consensus was that this is the best centre for effective coordination. The discussions did, however, not progress beyond this point when resumed in February 2012 as the Office of the COO was no longer willing to liaise with the project team (including the Environmental Management sub-directorate).

## REVIEW OF PROJECT PLAN

In April 2011 the project team requested permission from the Public Health: Environmental Management Sub-Directorate to re-look at the approach to the project, primarily as a result of

1. An increasing understanding of NMBM processes and structures, as well as
2. A delay in the start of the baseline studies due to the lack of funding, both internal and external.

The NMBM granted permission for this diversion from the original plan. Refer to Annex A for the complete concept note for the Nelson Mandela Bay Climate Response System.

# ACHIEVEMENTS SINCE 2009

* Refining/adjustment of initial scope/focus/plans as the process progressed
* Stronger links with business sector through the Nelson Mandela Bay Business Chamber’s Environment and Greening Business Task Team
* Relationship/cooperation between Electricity & Energy, Environmental Management, Land Planning and Development, Waste Management, and Disaster Management.
* Successful representation of NMBM at COP17
* A three month climate smart radio awareness programme on KingfisherFM
* Inclusion of Nelson Mandela Bay in the ICLEI Urban-LEDS programme (including the subsequent V-NAMA and Surewater4Africa programmes)
* Approval of a Climate Change project as part of a three-year partnership project (consisting of a suite of five projects) between the NMBM and the City of Gothenburg
* NMBM Climate Response Guideline
* Climate Change Status Quo Report
* Nelson Mandela Bay Vulnerability Assessment Framework
* Climate Change and Energy Policy frameworks

# CURRENT SITUATION

At the end of the first phase of the NMBM’s climate response work the status quo of the current situation is characterised by a number of key traits. These traits have been grouped into five categories i.e.

* Governance,
* Coordination,
* Tools,
* Policies, Strategies & Plans, and
* Initiatives.

## GOVERNANCE

1. Various Changes in Political and Administrative Top Management

The move towards a coordinated institutional response to the challenges and opportunities presented by climate change has had to navigate an extremely unstable political and governmental context since 2009. This has posed many challenges to the process, but has also been instrumental in the realization that strategies and plans need to be simple and flexible enough to withstand continually changes in political and governmental contexts.

1. Integrated Development Plan (IDP)

By law (Municipal Systems Act of 2000) municipalities have to produce an IDP for each five year period that a council is in office. If used correctly, the IDP is key in facilitating an effective response to climate change for the NMBM as an institution, as well as for Nelson Mandela Bay as a city. Currently the vulnerability to the impacts of climate change and the opportunities presented by climate change are not key considerations factored into the IDP planning process.

1. Good Cooperation Between Environmental Management, Electricity & Energy, Waste Management, Disaster Management and Land Planning

Since the start of the coordinated effort towards climate response planning for the NMBM there has been a marked increase in the cooperation between Public Health: Environmental Management and a number of key sub-directorates i.e. Electricity & Energy: Projects, Safety & Security: Disaster Management, Public Health: Waste Management, and Human Settlements: Land Planning and Development. Through two international partnership programmes that the NMBM will be part of for the next three to five years, i.e. the NMBM-Gothenburg partnership and the ICLEI SureWater4Africa programme, Environmental Management hopes to increase cooperation with the Infrastructure & Engineering: Water and Sanitation, as well as the Roads, Stormwater and Transportation Sub-Directorates. Both of these are key sub-directorates in the NMBM’s response to climate change.

1. Relationship being built with Business Sector, Academia, and Civil Society

Building relationships with the business, academic and civil society sectors has been a relatively slow process. The NMBM processes seldom encourage/facilitate partnerships with these sectors. The NMBM’s involvement in the Nelson Mandela Bay Business chamber’s Renewable Energy and Greening Business task teams is proving to be an effective mechanism for starting to breach the gap between the NMBM and the various sectors.

## COORDINATION

1. Consistency in the Project Management Team

Since the start of the coordinated climate response effort within the NMBM in 2009 there has been a single coordinator, guided by the Environmental Management and Electricity & Energy: Projects sub-directorates. This has reduced interruptions/delays in the institutionalisation process as a result of new people having to be brought up to date with the history of the climate response work, and has not minimised the loss of institutional memory of the work done to date.

1. Development of the NMBM Climate Response Guideline and Status Quo Report

In light of the completion of three year contract with Africoast Engineers for the planning and coordination of the roll-out of climate change mitigation and adaptation response plans for Nelson Mandela Bay Municipality, it was deemed important to capture the work done since 2009 in a single report in order to reduce the level of institutional memory. This is especially essential due to the fact that with the winding up of the three year appointment the climate response coordinator will, for the first time since 2009, not be involved with the climate response work.

1. Good Coordination Between Environmental Management, E&E, Waste Management and Land Planning

One of the major steps towards a coordinated institutional response to climate change within the NMBM has been the increasingly closer working relationship and coordination between the Public Health: Environmental Management, Electricity and Energy: Projects, Public Health: Waste Management, and Human Settlements: Land Planning and Development sub-directorates.

## TOOLS

1. Performance Management System

The NMBM has an institutional performance management system that can easily be used, in conjunction with the IDP and the Service Delivery Budget Implementation Plan (SDBIP), for the purpose of enforcing and monitoring the institutionalisation of climate response. It provides the perfect platform for the institutionalisation of climate response. The performance management system is currently located within the Office of the Chief Operating Officer (COO) and will require their intimate involvement if this tool is to be employed.

1. Corporate GIS

A Corporate GIS was established in the Metro in 2005. The custodian of Corporate GIS is the Strategic Planning Unit which is an Office of the Chief Operating Officer. The primary objective of the Corporate GIS (or Corp GIS) is to co-ordinate and manage spatial data within the institution. The various Directorates and Sub-Directorates are responsible for the maintenance and verification of their respective spatial datasets. The Corp GIS uses various datasets to spatially represent information about the municipality. Data from various sources are updated into the system on a regular basis.

1. Sustainable Communities Planning Guide

The Sustainable Communities Planning Guide aims at helping planners, professionals, community representatives and politicians understand and apply sustainable community principles in planning processes, in order to achieve more integrated and sustainable towns and cities with a better urban environment and quality of life. The planning guide is the culmination of a long process that began in 2002 with the development of a Comprehensive Urban Plan for Port Elizabeth and ended in the publication of the Guide in 2007. The guide takes the integrated development planning approach further in three ways. Firstly it applies integrated development planning to urban spatial and structure planning, taking account of social, economic and environmental considerations. The guide places sustainability alongside integration as a second great guiding principle that is increasingly recognized as essential in all development thinking. Thirdly the guide elaborates urban spatial planning principles that will lead to more integrated and sustainable cities, and most importantly, it gives many practical examples of how these are applied in practice.

1. Go Green Awareness Campaign

The GO Green Environmental Awareness Campaign was developed in response to the need to educate the Nelson Mandela Bay community and NMBM officials with regards to environmental aspects, as well as the need to communicate environmentally related initiatives of the NMBM, both internally and externally. The GO Green campaign aims to provide a unified brand for the communication of environmental/greening initiatives within Nelson Mandela Bay.

## POLICIES, STRATEGIES, PLANS ETC.

### **NATIONAL**

* Constitution of the Republic of South Africa, Act 108 of 1996
* A National Climate Change Response Strategy for South Africa, 2004
* A National Climate Change Response Green Paper, Notice 1083 of 2010
* The White Paper on Environmental Management Policy for South Africa, 1998
* White Paper on the Energy Policy of the Republic of South Africa, 1998
* Integrated Energy Plan for the Republic of South Africa, March 2003
* National Integrated Resource Plan 2010 to 2030
* National Environmental Air Quality Act 39 of 2004
* White Paper for Sustainable Coastal Development in South Africa, 2000
* The National Environmental Management Act (NEMA) 107 of 1998
* Environment Conservation Act 73 of 1989
* The National Framework for Sustainable Development in South Africa

### **SECTORAL**

#### Agriculture

* Conservation of Agricultural Resources Act 43 of 1983

#### Water Affairs & Forestry

* National Water Services Act 108 of 1997
* National Water Act 36 of 1998
* White Paper on National Water Policy of the Republic of South Africa, 1997
* White Paper on Water Services, 2002 – Draft

#### Land

* Development Facilitation Act 67 of 1995
* National Heritage Resources Act 25 of 1999

#### Minerals and Energy

* White Paper on the Energy Policy of the Republic of South Africa, 1998
* White Paper on the Renewable Energy Policy of the Republic of South Africa, 2003

### **PROVINCIAL**

* Eastern Cape Climate Change Strategy
* Eastern Cape Renewable Energy Strategy

### **LOCAL**

* Local Government: Municipal Demarcation Act 27 of 1998
* Local Government: Municipal Structures Act 117 of 1998
* Local Government: Municipal Structures Amendment Act 33 of 2000
* Local Government: Municipal Systems Act 32 of 2000
* Integrated Development Plans
* NMBM Climate Response Guideline
* NMBM Disaster Management Policy
* NMBM Disaster Management Plan
* NMBM Integrated Environmental Policy
* NMBM Green Procurement Implementation Strategy
* NMBM Coastal Management Plan
* NMBM Coastal Setback Lines

#### Municipal By-Laws

* Nelson Mandela Bay Metropolitan Municipality: Air Pollution Control By-Law, 2010
* Nelson Mandela Bay Metropolitan Municipality: Storm Water Control By-Law, 1996

## INITIATIVES

To date various NMBM sub-directorates have commissioned or initiated a number of projects/programmes that can be seen as climate response interventions, even though these were not the primary driver behind these. These projects/programmes largely happen in isolation of each other, which has been one of the key drivers towards the efforts for greater coordination amongst NMBM directorates and sub-directorates.

#### WASTE

Key waste projects, housed within the Public Health: Waste Management Sub-Directorate include:

* Community source separation project (expanded to include 2 additional communities)
* Nelson Mandela Bay Waste Exchange
* 8 cooperative programmes
* All Hands on Waste awareness programme and the Mobile Exhibition Unit
* Integrated Waste Management Plan (IWMP 2013-2018)
* Implemented ward based cleaning programmes in 30 of the 60 wards

#### ENERGY

Key renewable energy and energy efficiency projects, housed within the Electricity & Energy: Projects Sub-Directorate, include:

* NMBM has initiated renewable energy embedded generation on a net metering principle
* NMBM has signed a non-exclusive agreement, with South Africa’s only green energy trader to trade up to 10% of its energy
* In process of signing a Power Purchase Agreement (PPA) for Fishwater Flats
* Pilot between NERSA, IDC and NMBM to produce off grid generation for informal area in Seaview
* Initiating project with GIZ to investigate generation from smaller reclamation works around Metro
* NMBM geared at creating consumer awareness by establishing a joint energy centre supported by NMBM, Coega and various other role players
* NMBM is embarking upon supply management programmes aimed at creating renewable energy alternatives
* Energy efficiency
* Embedded generation
* Roll-out of both high and low pressure solar water heaters
* Landfill gas waste-to-energy
* Energy conservation & audits
* Wind farms

#### BIODIVERSITY

Key biodiversity protection measures, residing with the Public Health: Environmental Management Sub-Directorate, include:

* NMB MOSS Conservation Network
* Bioregional Plan
* Baakens Valley Conservation Programme
* 5-Biome City

#### WATER

Key water supply and conservation measures, housed with the Infrastructure & Engineering: Water and Sanitation Sub-Directorate, include:

* Nooitgedacht / Coega Low Level Scheme (NCLLS): water from different catchment
* Recycling of wastewater
* Water Conservation / Water Demand Management
  + - Leak detection
    - Awareness campaign
    - Tariff per water consumption bracket
* Groundwater extraction
* Desalination
* Design intervention
  + - Energy efficiency
    - Water treatment process optimisation
* Water Services By-Law
* House Designs

#### PLANNING

Key planning interventions, housed within the Human Settlements: Land Planning and Development Sub-Directorate, include:

* Spatial Development Framework
  + - Strategic Environmental Assessment
    - Environmental Management Framework
    - Coastal Setback Lines
* Local Spatial Development Framework
  + - Sustainable Communities Planning Approach
    - Densification opportunities

#### AIR QUALITY MONITORING

Key air quality management measures, housed within the Public Health: Environmental Health Sub-Directorate, include:

* Designation of an Air Quality Officer
* Air Quality Management Plan
* Atmospheric emissions licencing
* Emissions inventory
* Ambient monitoring
* Dispersion modelling

# RECOMMENDATIONS

The following are recommendations for the next phase of the climate response institutionalisation:

1. Vulnerability assessment and development of municipal mitigation and adaptation plans

The NMBM Disaster Management Risk Assessment provides a high-level assessment of the disaster risks to the city. Although this provides a starting point and a foundation for an assessment of the vulnerability of the city to the impacts of climate change, a detailed assessment is required in order to guide planning at sub-directorate, directorate and municipal level.

The vulnerability assessment should furthermore be translated into sub-directorate level municipal mitigation and adaption plans that can inform the IDP planning process, as well as the development of the Service Delivery Budget Implementation Plans (SDBIPs) and the NMBM Performance Management System. The development of the municipal mitigation and adaptation plans needs to be done in partnership with the relevant sub-directorate in order to ensure practical, implementable plans. It is recommended that the NMBM start with the sub-directorates included in the Climate Change Response Guide for Nelson Mandela Bay.

1. Development of an integrated energy plan and the performance of a greenhouse gas emissions inventory

As with the risks posed by climate change the NMBM needs to understand the electricity and energy usage and demand of Nelson Mandela Bay in order to effectively plan electricity and energy supply. This data also forms the basis for compiling a greenhouse gas emissions inventory for the city. Both the electricity and energy data as well as the greenhouse gas emissions inventory is critical for the development of an integrated energy plan, which in turn is vital in transitioning the city into becoming a low carbon, energy efficient city.

1. Building/strengthening internal relationships towards institutionalisation and an integrated approach to climate response within the NMBM

Most of the achievements since 2009 has been because of the relationship with sub-directorates such as Human Settlements: Land Planning and Development, Electricity and Energy: Projects, Public Health: Waste Management, and Safety and Security: Disaster Management. Building and strengthening internal relationships is being highlighted as a key recommendation in light of the need to move towards measurable institutionalisation of climate response interventions in the midst of major instability in the political leadership and top administrative structure of the NMBM. The current three-year partnership project between the NMBM and the City of Gothenburg is an opportunity for building and strengthening relationships as the above-mentioned directorates, as well as Infrastructure and Engineering: Roads, Stormwater & Transport, and the Office of the COO are involved.

1. Working towards the establishment of an NMBM climate response coordination unit with a clear mandate and allocated budget

The effective institutionalisation of climate response interventions within the NMBM will depend on internal human resource capacity to coordinate this. The NMBM thus need to make this a priority.

1. Work towards the inclusion of climate response interventions in the IDP process as well as the performance management system of the NMBM

Linking with the previous point (4), the long-term institutionalisation of climate response interventions within the NMBM will largely hinge on whether these are included in the IDP planning process as well as the performance management system of the NMBM. The Office of the COO is vital in achieving this, so efforts will have to be made to involve them in the process.