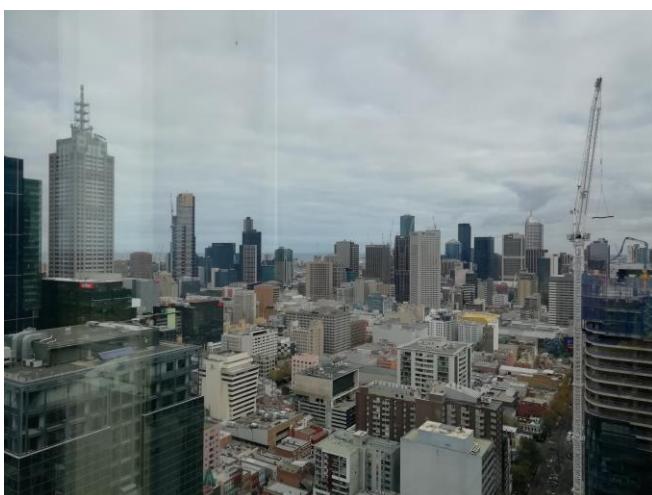


## ECONOMIC DEVELOPMENT, TOURISM AND ENVIRONMENTAL AFFAIRS: INTERNATIONAL VISIT REPORT

OFFICIAL VISIT TO THE PROVINCE VICTORIA (AUSTRALIA) FUNDED BY "THE CLIMATE GROUP-UNDER2COALITION-FUTURE FUND" FROM 03<sup>rd</sup> JUNE -07<sup>th</sup> JUNE 2019.

Ntokozo Nkosi & Ntuthuko Makhubu



**THE °CLIMATE GROUP**

## **1. Purpose**

To provide The Climate Group (“TGC”) – Under2 Coalition governments of Quebec, Scotland and Wales with a brief overview of the official visit by Mr Ntokozo Nkosi and Mr Ntuthuko Makhubu to the State of Victoria, Australia from 3<sup>rd</sup> June – 7<sup>th</sup> June 2019. The main intention of the learning exchange programme was to peer learn on Boosting Business Productivity programme, sustainable business opportunities and development of the Monitoring, Verification and Reporting (MRV) tool between the South African province of KwaZulu-Natal and State of Victoria.

## **2. Background**

For over 12 years, The Climate Group has supported sub-national governments in their efforts to adopt targets, plans and policies to address climate change and build prosperous economies and communities.

The Future Fund aims to empower sub-national governments to accelerate the shift towards a global temperature of below 2°C of global warming and achieve greater prosperity for all, through strategic funding that supports climate related activities in developing and emerging economic regions. Launched at COP22 in Marrakech, the Future Fund envisages mobilizing developing and emerging economic regions of the Under2 Coalition for climate action. The role of developing and emerging economy regions is fundamental in making a difference to the world's climate system.

Annually TCG makes a call for a proposal to its member states to submit projects or secondments to be considered for funding. KwaZulu-Natal as a member of TCG identified the Boosting Business Productivity Programme in the State of Victoria in Australia as one with the aspects that are most suitable to learn more from and possibly replicate back in the province.

The purpose of the secondment and learning exchange was to visit the State of Victoria for four (4) working days which entailed meetings, site visits and information

gathering about the “Boosting Business Productivity Programme and find viable business opportunities within the Province.

### **3. Objectives**

- 3.1 To visit the State of Victoria for four working days to learn about the State’s Boosting Business Productivity Programme and further acquire knowledge on boosting productivity by improving energy and material efficiency and re-using and avoiding waste. Learning about energy efficiency through the Resource Smart Government Buildings (school level), and Solar Homes Package (household level), Interactive Waste data mapping (government level), and Efficient business operations (small businesses level). It was to also learn and exchange about best practice guidelines for the sectors cited above.
- 3.2 To explore possible networking, collaboration & learning exchange opportunities with various stakeholders from the State of Victoria.
- 3.3 To collaborate and establish a comprehensive report on the findings of the visit and share these on the Under2 Coalition website.

### **4. Structure of Report**

This report is structured to highlight the important points from each of the meetings held, which will then discuss lessons learnt from the two tours conducted as well as highlight possible means of implementing the lessons learnt. Finally it will conclude with recommendations from the entire international visit.

### **5. Sustainability Victoria, Victoria-State Government**

#### **5.1 Day 1 Meetings:**

##### **5.1.1 Sustainability Victoria Offices: 50 Lonsdale Street, Melbourne, Port Phillip Room Level 28.**

###### **Participants:**

- **Steven Lynch, Acting Director – Business & Built Environment**
- **Grace Rodegerson, PA of Director**
- **Claire Ruedin, Project Advisor, Education**

### **Key Points:**

- Sustainability Victoria's (SV) statutory objective is to facilitate and promote environmental sustainability through the use of resources. It is established under the Sustainability Victoria Act 2005. It is a statutory authority with a board appointed by the Australian Minister for Environment and Climate Change.
- Employs about 255 people and their core function is to deal with deliverables for the State of Victoria. SV has obligations under the Environment Protection Act 1970 for statewide waste management strategies and planning.
- SV supports Victorians to be more sustainable in their everyday life; in their homes and jobs; in schools and communities and in the systems and infrastructure that support a thriving economy and lifestyle.
- It provides expert advice and guidance in energy, materials and waste. Conducts research to demonstrate what's possible.
- SV inspires people to make sustainable change above and beyond legal requirements.
- SV is responsible for planning and fostering a smarter statewide infrastructure system for delivering essential waste services across the state.
- Projects that SV is involved in are including but not limited to:
  - Premier's Sustainability Awards
  - ResourceSmart Schools Awards
  - Zero Net Carbon Homes Program
  - Take2
  - Love Food Hate Waste
  - Build better bag habits

Commercial building Efficiency  
Energy efficiency for business

**5.1.2 Department of Environment, Land, Water and Planning Offices: 8**  
**Nicholson St, Melbourne 3000**

**Participants:**

- **Evan Davies, Climate Change Adaptation Policy Team**
- **Jen Hughes,**
- **Andrew, Energy Programme Branch**
- **Guy Pritchard, Climate Change**

**Key Points:**

- Victoria Climate Change Framework-Long term plan to 2050 for a net zero emissions:
  - 15-20% emissions reduction target by 2020 for Victoria
  - 30% reduction from 2015 level in government emissions by 2020
- Government, businesses and community commitments to reduce emissions through TAKE2 pledges
- There is Victoria's Climate Change Adaptation Plan 2017 – 2020 and Climate Change Act 2017
- Renewable Energy Bill 2017- Victoria's commitment to strong renewable energy industries, creating jobs, attracting investment and reducing greenhouse gas emissions.
- Victorian Renewable Energy Targets for generation of 25% by 2020 and 40% by 2025- this will decrease pressure on electricity prices and secure Victoria's electricity supply
- The Bill is part of a package of policy reforms designed to deliver investment and employment to Victoria, which will ensure a sustainable economy for future generations.

- Environment Protection Amendment Bill 2018 which provides the foundation for transformation of Victoria's environment protection laws and the Environment Protection Authority Victoria (EPA). It entails a new approach to environmental issues, focusing on preventing waste and pollution impacts rather than managing those impacts after they have occurred.
- To further reduce risks from waste, persons managing priority waste would be also be required to take all reasonable steps to identify and consider alternatives to waste disposal, including waste avoidance, re-use and recycling
- The Statewide Waste and Resource Recovery Infrastructure Plan (SWRRIP), first published in 2015, is the first of its kind in Australia. It provides a long –term vision and roadmap to guide future planning for waste and resources recovery infrastructure in Victoria. The vision of the SWRRIP is to develop an integrated statewide waste and resource recovery system that continues to provide an essential community service.

## **5.2 Day 2 Meetings:**

### **5.2.1 LaTrobe Valley Community Power Hub (LVHEU), Morwell: 131 Princess Drive, Morwell VIC 3840**

#### **Participants:**

**Chris Barfoot – [cbarfoot@netspace.net.au](mailto:cbarfoot@netspace.net.au)**

**Darren McCubbin – [darrenm@wellington.vic.gov.au](mailto:darrenm@wellington.vic.gov.au)**

**Scott McArdle – [scott.mcardle@lva.vic.gov.au](mailto:scott.mcardle@lva.vic.gov.au)**

**Dan Musil – [dmusil@earthworkercooperative.com.au](mailto:dmusil@earthworkercooperative.com.au)**

**Marianne Robinson – [secretary@votv.org.au](mailto:secretary@votv.org.au)**

**Heidi Hamm, Strategic Coordinator (Gippsland) | Regions, Communities & Local Government**

#### **Key Points:**

- The LVHEU was announced as part of the Latrobe Valley Assistance Package Initiative with funding of \$5 million over four years from the 2016-17

State of Vic budget. The program was designed to help low-income households save energy and improve thermal comfort in the local government areas of Latrobe City, Wellington and Baw Baw

- 1000 homes in the Latrobe Valley
- \$4500 per household
- Low-income households only – eligibility criteria:
  - Healthcare concession card
  - Pensioner concession card
  - Energy or water retailer hardship scheme
  - Community housing tenant
- Do retrofitting
- **382 Homes Complete**
- 95 Homes in Progress
- **518 Home Assessments Complete**
- **866 Interested Parties contacted**
- **657 Eligibility Confirmed**
- 137 Participants left to contact
- 57 Solar PV installs Complete
- 17 Solar PV installs in progress
- 108 Ceiling & Underfloor Insulation Installations complete
- 2 Ceiling & Underfloor Insulation Installations in progress





Images of the retrofits

A presentation from Darren McCubbin, Chair of Gippsland Climate Change Network- this is a Hub set-up by the State of Victoria as means of intervention to assist the people of Latrobe Valley which had been affected by the closure of mines within the area resulting in a high unemployment rate.

- Pilot of Community Hubs which operate in the following sequence:
  - Local Communities develop ideas on community owned renewable energy-The Hub provide assistance and resources-Testing the feasibility, viability and desirability of the idea- The Hub returns the bankable project to the community for local benefits
- A number of projects have been implemented such as:

**Gippsland Bulk Buy**

**Yinnar Arts Resource Collective**

**Yinnar Solar Footpath-** This project involves the installation of solar powered lights to a footpath between the town and recreational reserves.

**Ramahyuck Aboriginal Co-op Solar Farm-** solar farm with a capability of 6.5MW

**Licola Wilderness Village** -The hub has designed a placement system comprising energy efficiency, solar, batteries and better synchronising controls which will reduce diesel consumption by more than 90%.

**Neerim South Hospital** -Using the SV grant, a full energy audit has been undertaken and is due to be delivered late September

- LV Power Hub can work positively with the community, commercial sector and government
- Presentation by Marianne Robinson from “Voices of the Valley” an organisation which has been doing advocacy work around transitioning the valley to renewables. Projects involved are as follows:
  - Continuing its interest in health, including participation in the Latrobe Health Innovation Zone and Health Assembly
  - Made a submission to the EPA to review the licence for brown coal fired power stations, concerning continuous improvement of air quality
  - Participation in community forums about priorities for the future of the Latrobe Valley, mine rehabilitation, work plan variations for power stations, and proposals for new industries



Community Power Hub

### **5.3 Day 3 Meetings:**

#### **5.3.1 Better Commercial Buildings: 50 Lonsdale Street, Melbourne, Docklands**

**Room Level 28.**

**Participants:**

- **Chris Lape, Project Lead, Sustainable Buildings**

**Key Points:**

- Project aims at supporting and implementing energy efficiency improvements in poorly performing buildings
- Sustainability Victoria is working with 52 owners of major commercial buildings, to undertake upgrades of their properties. Each project receives up to \$30,000 grant funding.
- The buildings must be larger than 1,000m<sup>2</sup> and NABERS rated 3-stars or lower (NABERS is the National Australian Built Environment Rating System; this is an initiative by the government of Australia to measure and compare the environmental performance of Australian buildings and tenancies.)
- The projected savings for participating business is \$18 million over 10 years, reducing emissions by 55,000 tCO<sub>2</sub>-e.
- Victorian Energy Upgrades – established under the Victorian Energy Efficiency Target Act 2007 – it is the largest efficiency certificate programme in Australia
- This programme is anticipated to save residential and business customers over \$600 million on their energy bills this year.
- In 2017-2018 53,000 households and 20,000 business premises undertook energy efficiency upgrades through the program. On average, they saved \$210 and \$4500 on their energy bills per annum, respectively.
- Programme to deliver 6.5 million tonne greenhouse gas target in 2020, with future targets to be set 2019-20.
- KZN to learn from the setting of these targets.

- Improving energy performance of rental properties – this will reduce renters' energy bills and improve their comfort and health.
- This will be done by commissioning new research and survey information, alongside consultation with the community and property owners

### **5.3.2 Presentation & overview of software used for Resource Smart Schools:**

**50 Lonsdale Street, Melbourne, Docklands Room Level 28.**

**Participants:**

- **Cyrelle Field, Manager Education**
- **Claire Ruedin, Project Lead, Education**

**Key Points:**

- ResourceSmart Schools is managed by Sustainable Victoria and helps schools benefit from embedding the concept of sustainability into their daily activities. In 2015, the programme won the Education for Sustainability category of the nationally recognised Banksia Awards.
- Schools choose to participate in Resource-Smart Schools for a variety of reasons. Implementing and enacting an action plan which will allow the school to reduce the amount of waste it sends to landfill, as a result, helping the environment in several ways, including:
  - Reducing greenhouse gas emissions from landfill sites
  - Reducing resource use in the production of consumables including food, plastics, paper, cardboard and more
  - Protecting plant and animal life from injury and death due to habitat pollution and accidental ingestion of waste materials.
- An analysis of waste production in Victoria highlights the largest waste streams by composition are: Food waste; Recyclables and Landfill.
- Steps to follow when implementing the program:
  - Review your billing data and waste contract
  - Conduct a waste and litter audit
  - Set goals and targets
  - Find innovative ways to reduce waste

- Separate your waste into streams
- Communicate clear messages
- Have the right bins, right places, right signages
- Have Sustainability education in the classroom
- Have practical ideas for engaging your whole school community such as:
  - Donating unwanted clothing to charity
  - Send old and broken IT equipment to organisations that can refurbish or repurpose items for reuse.
  - Avoid use of disposable items such as paper or plastic cups and paper towels
  - Provide water fountains and promote the use of re-usable drinking bottles.
  - Setting printers to double sided printing
  - Encourage electronic communication where practical to reduce paper use
  - It may be possible to compost some food waste for use on school grounds
  - Sending information home in the school newsletter.

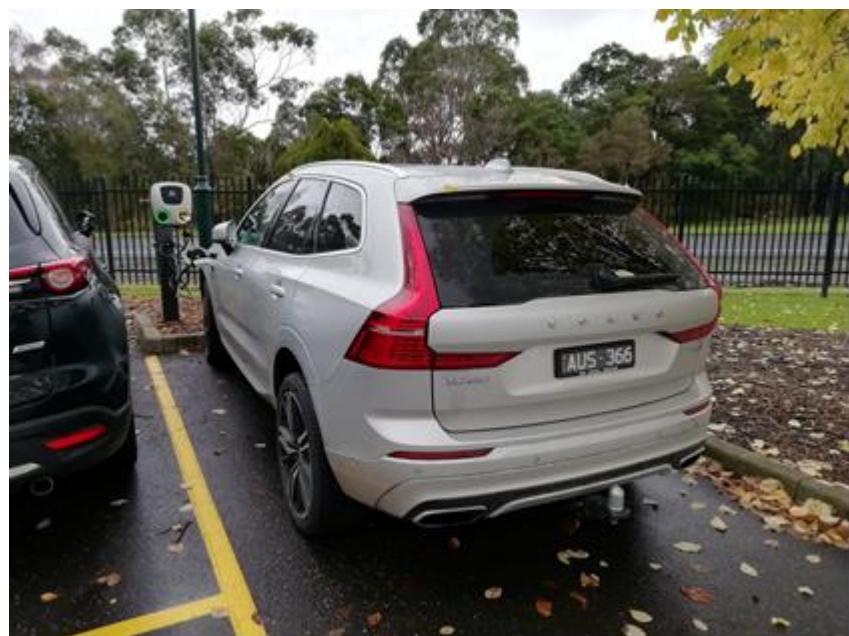


Figure showing Electric car charger station within the school premises

### **5.3.3 Boosting Business Productivity & Zero Net Carbon Homes: 50 Lonsdale Street, Melbourne, Docklands Room Level 28.**

#### **Participants:**

- **Nick Blague, Manager, Sustainable Business**

#### **Key Points:**

- Programme was introduced in 2016 to assist Victorian businesses to capture energy efficiency and material efficiency benefits
- Programme participants have saved \$1.4 million and 70708 tonnes of greenhouse gases, which is expected to increase as businesses continue to implement identified upgrade opportunities.
- Working with key industry sectors on accelerating Victoria's energy productivity and strengthening skills development in our energy efficiency workforce.
- Carbon Neutral Home would entail the following:
  - 5kw Battery Ready PV Solar System
  - Double Glazed Sliding Doors
  - R5.0 Insulation upgrade to ceiling
  - R2.5 External Wall insulation upgrade
  - R2.0 Internal Wall insulation upgrade to wet areas
  - Insulation batts to external wall and corner junctions
  - Low expanding foam between window and wall frames
  - Foil taping for insulation wrap
  - 5 Star Ducted heating unit
  - Sealed internal cavity sliding door pockets
  - Vented kitchen range hood to atmosphere
  - Led Batten lighting throughout

### **5.3.4 Waste Data Mapping – Overview: 50 Lonsdale Street, Melbourne, Docklands Room Level 28.**

#### **Participants:**

- **Nick Chrisant, Project Lead (Data), Recycling Industry Support**

#### **Key points:**

- The State of Victoria has managed to utilize an electronic software through Microsoft Office 365, Power BI which is a business analytic service that delivers insight to enable fast, informed decision making, through transforming data into visuals, visually explore and analyze data, customize dashboards and interactive reports.
- Each Local Government which does Kerbside collection populates a template of the data collected, recycled and landfilled and submits this to Sustainability Victoria.
- All Industry waste gets populated into a template and sent to the Sustainability through a reporting portal.
- Using all the data collected one can then use the software to determine certain calculations of offsets in terms of waste recycled from landfill.
- In the South African context we are in possession of the South African Waste information System which requires municipalities to report waste collected, recycled and landfilled, with certain constraints with the data reported.
- Replicating the use of this data-base will enable the Province to extract waste data which will enable to do calculation on emission off-sets.

## **6. Technical Site Visits**

The team were afforded an opportunity to go on two site visit on the Thursday the 6<sup>th</sup> June 2019. These were namely:

### **6.1 Beaconhills College (Pakenham Campus): 30-34 Toomuc Valley Road, Pakenham, Victoria 3810.**

#### **Participants:**

- **Cyrelle Field, Manager Education**
- **Claire Ruedin, Project Lead, Education**
- **Jack Donkers**

### **Key points:**

- Pakenham Campus consist of 1480 Students, 215 staff members, 5 main Departments, 6 Specialist Departments, 45 Buildings all within a perimeter of 19.5 Hectares.
- The schools waste audit identified eight main waste stream coming out of the school; which were General Wet Waste, General Inert Waste, Comingle Waste, Metal Waste, Batter Buckets, Paper/Cardboard, Clothing and Small Electricals
- The school has adopted a separation at source approach with all the separate bins for different waste streams.
- The Pakenham campus electricity usage in 2018 was 773 MWh from grid:
  - 224 Solar generation 2018
  - 330 kWh Solar system were installed
  - 1220 Solar panels across 3 arrays
  - 4000 Incandescent lights were replace by LED lights
  - 107.7 tonnes diverted through recycling
  - 300kg per week of organic waste fed into worm farm
  - 2.6 tons of clothing recycled
- Major alterations were also made at the Berwick Campus which have contributed positively.
- Total of 366 tCO<sub>2</sub>e diverted in 2018, the school has made a saving of \$506 000 in their electricity bill since 2013
- The school also has adopted a Green Building Design with Water Tanks (Rain water Harvesting) this entails the following:
  - 130kW solar system
  - Four water tanks
  - Extensive insulation
  - Lighting and air-conditioning sensors



Figure showing solar-panels feeding back into electricity grid at school



Figure showing separation at source at school for recycling



Figure showing garden at school to produce food for Home Economics lesson.



Figure showing water harvesting at school

## **6.2 SJD Homes: 433 Princess Highway, Officer Vic 3809**

### **Participants:**

- **Nick Blague, Manager, Sustainable Business**

### **Key point:**

- Smart Homes are the energy efficient houses with multiple eco-benefits. An average home or house is regarded as the greatest consumer of energy as it requires power for lighting, cooking, cooling and heating. According to the research done in the State of Victoria, the average home or house can produce seven tons of greenhouse gas (GHG) emissions each year. This creates the greatest impact and pressure on our environment.
- An energy efficient home makes sense when it is affordable to build and live in. A house that is designed to receive much natural light and airtight tends to be warm during winter, and cool during summer, which provides greater comfort and well-being.
- Double glazing and correctly sized and positioned windows can result in lower indoor noise and summer heat gain. Building airtight home means less pests, dust and cleaning. Therefore, energy efficient homes and retro-fitting is recommended within upcoming houses which will have financial benefits to the home owner with reduced energy bills, and also the future of our planet.



Figure showing image of Smart Home.

## **7. Analysis and Overall Impression**

There were a couple of key areas which were of comparison between the two States; however, this report will focus on two significant areas of comparison which have a significant impact in achieving the climate change target. The first area relates to the governance and institutional arrangement within the State of Victoria, the second area relates to the enabling initiatives which the State have adopted to implement climate change responses.

In terms of governance the State of Victoria consists of the Department of Environment, Land, Water and Planning (DELWP), which deals with “Policy Making” and also consists of Sustainable Victoria, which deals with “Deliverables” and thirdly a compliance wing under the Australian Environmental Protection Agency. The important part of this governance structure is that “Climate Change” is at the centre of these three pillars and there is some accountability in terms of the functions and budget assigned to the function.

With regards to institutional arrangement, Sustainable Victoria has a fully fetched organogram with human Capital and a budget to deliver on the governments initiatives on Climate Change. This wing also provides feed-back to Policy Makers to draft or amend policies which may become a hindrance in achieving the set targets or deliverables for climate change. The constant communication between the two creates a conducive environment for increased performance for both parties. A classic example was a story shared with the delegates where Sustainable Vic had to inform DELWP of drafting into policy that energy created through solar-panel installations may be fed back into the electricity grid, hence creating an enabling environment to achieve a sustainable impact to respond to climate change.

There are pieces of legislation which set targets within the State, which can be monitored and tracked in terms of progress made.

KwaZulu-Natal-Natal, on the other hand has the Department of Economic Development Tourism and Environmental Affairs (EDTEA), which has a sub-directorate: Air quality and climate Change, with one individual to perform all functions relating to climate change. The Human Capital and financial constraints in terms of budget is still a problem. However, quite a significant amount of work has been carried out to try and respond to climate change.

The 2011 National Climate Change Response Policy together with other National policies from various sectors as well as the recent National Adaptation Strategy (NAS) have enabled the province to lay a foundation and formulate structures as well as province focused policy documents aimed towards the implementation of tangible response projects on the ground.

To date, the Province of KwaZulu-Natal guided by the National Climate Change Policy of 2011 and supported by National Department of Environmental Affairs has reviewed sector vulnerabilities induced by climate change within the Province. Such vulnerability assessments were also conducted in all the 10 districts of the Province with the only metropolitan having done so a while ago.

The outcomes of these assessments have identified a range of sectors that require prioritization in KZN at the behest of climate change occurrence. Among these are the most critical sectors such as Water resources, Agriculture & Food Security, Marine & Coastal zones, Biodiversity and ecosystems, Human health, Human settlements, Transport and infrastructure as well as Disaster Management. This is a clear indication that KwaZulu-Natal needs to take note of how imperative it is to ensure that its organisational structure is equipped such that it can deal with climate change issues.

## **8. CONCLUSION**

The success of renewable energy programmes in the State of Victoria has opened an opportunity for South Africa and KZN Province to review their energy production programmes, as they are predominantly relying on coal for power generation. Power generation in South Africa is always associated with poor air quality and

health. The visit to the State of Victoria has ensured that renewable energy can work for South Africa provided that there is strong partnerships, cooperation and policy (legislation) between government, private sector and communities.

## **9. RECOMMENDATIONS**

Although the trip was limited, it was highly informative. We were only able to scrape the surface in terms of grasping as much information as possible because much of the time was spent travelling. It is only through continuous engagement with international entities and governments that we can gain the support and benefits associated with such partnerships. There is a significant amount of information that is yet to be learned if we are afforded an opportunity again. In order to make this partnership more fruitful, it would be beneficial to visit the area again and learn more about the subject from the people directly involved. As a developing nation, we can adopt similar strategies in our country that will benefit our people and the environment. This can help put South Africa on the map and ensure we are placed at the forefront of combatting the climate change phenomena that we are all being affected by on a global scale.

It is recommended that the implementation of the following programmes

- Modified SEEP programme to the sample of schools that are already achieving best results on the current school's departmental programme to include monitoring, evaluation and reporting in terms of emission levels off-set.
- Energy efficient homes and retro-fitting is recommended within homes and government buildings this will have financial benefits to the government and reduced energy bills. The province will also be able to report its contribution to emissions reduction target.
- KwaZulu-Natal Province plans to setup a GHG emissions baseline which will inform reduction targets aligned to national 42% reduction by 2020. State of Victoria has also established its targets i.e. 15-20% emissions reduction target by 2020 and a 30% reduction from 2015 levels in government emissions by 2020. There needs to be further engagement to learn the approach used to monitor attainment of such targets. In KwaZulu-Natal we have implemented projects towards GHG emissions reduction both at a region wide as well as at government buildings but there is no

monitoring conducted, Victoria needs to be further engaged to share their approach in quantifying such offsets.

## **ACKNOWLEDGEMENTS**

We would like to take this opportunity to express our sincere gratitude to the KwaZulu-Natal Economic Development Tourism and Environmental Affairs, Member of Executive Council (MEC) for creating and supporting this life changing opportunity provided by The Climate Group- Under 2 Coalition Future Fund. To our loving and friendly hosts in the State of Victoria, thank you very much for accepting us to share your knowledge and providing us with your undivided attention throughout our visit. To the Future Fund thank you so much for lending an extra hand to us as a developing region, and providing the funds and facilitating the entire programme so that we can strive to combat climate change has really assisted. We really do hope the partnerships will continue. Thank You.

