

**Exploring Pathways To Transform African Cities Into
Low Emission And Sustainable Cities**

THE CASE OF KWADUKUZA LOCAL MUNICIPALITY (SOUTH AFRICA)

Ninth Africa Carbon Forum

29 June 2017



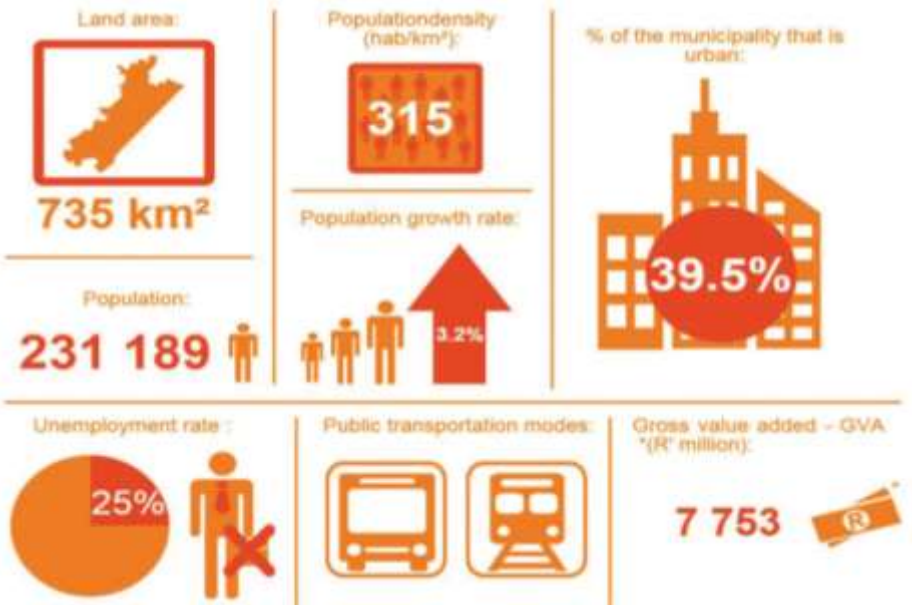
PRESENTATION OUTLINE

1. KWADUKUZA LOCAL MUNICIPALITY CONTEXT
2. LOW EMISSION PATH
3. LOW EMISSION STIMULUS
4. LOW EMISSION VISION
5. ENERGY PICTURE AT A GLANCE
6. URBAN ENERGY EMISSIONS PROFILE
7. ALIGNMENT OF MUNICIPAL OBJECTIVES & POLICIES
8. AFFIRMATION OF LOW EMISSION TRAJECTORY
9. CHALLENGES
10. LESSONS LEARNT

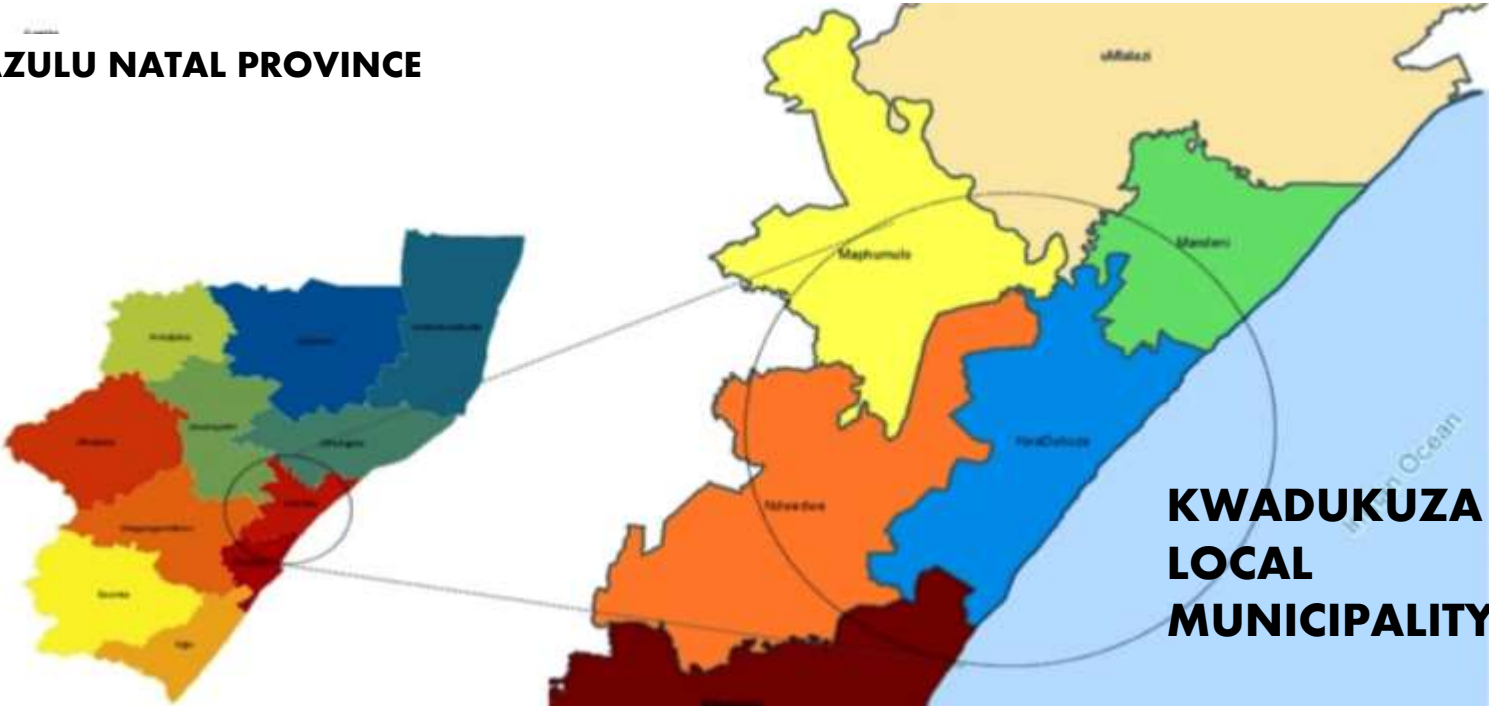


KWADUKUZA LOCAL MUNICIPALITY CONTEXT

SOUTH AFRICA



KWAZULU NATAL PROVINCE



KWADUKUZA LOCAL MUNICIPALITY

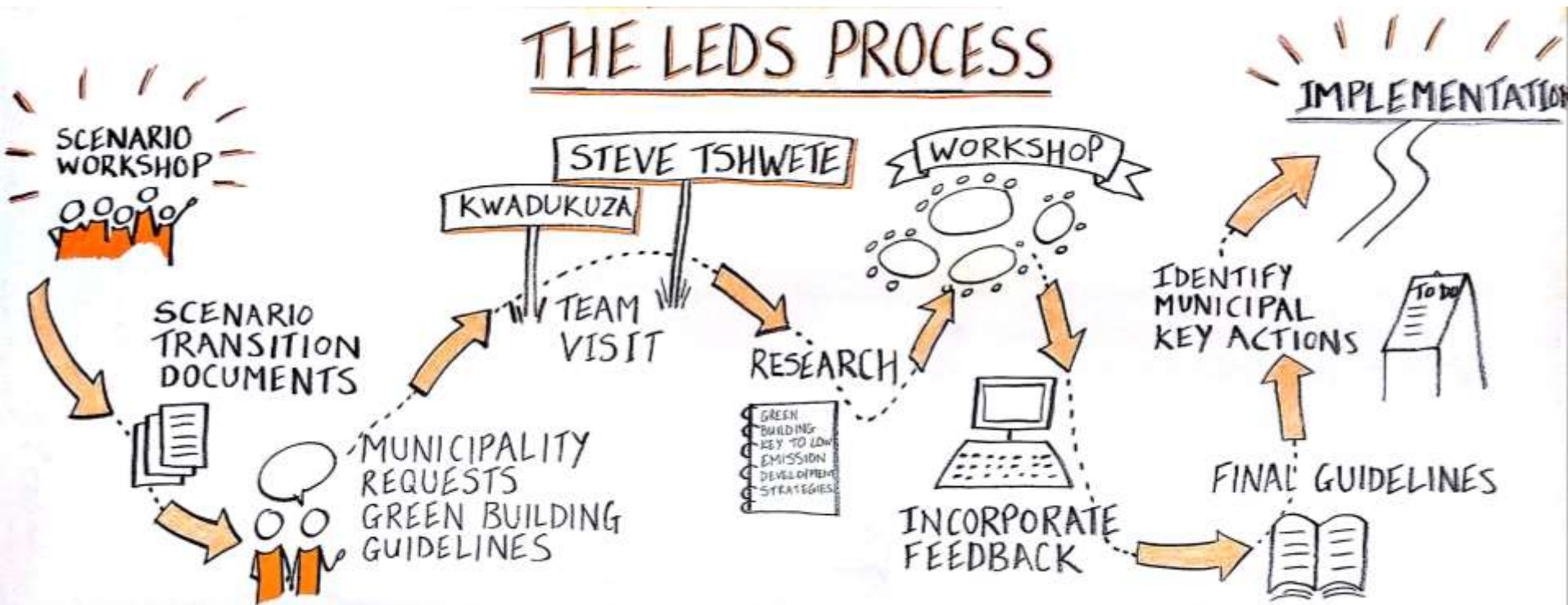
KWADUKUZA LOW EMISSION PATH



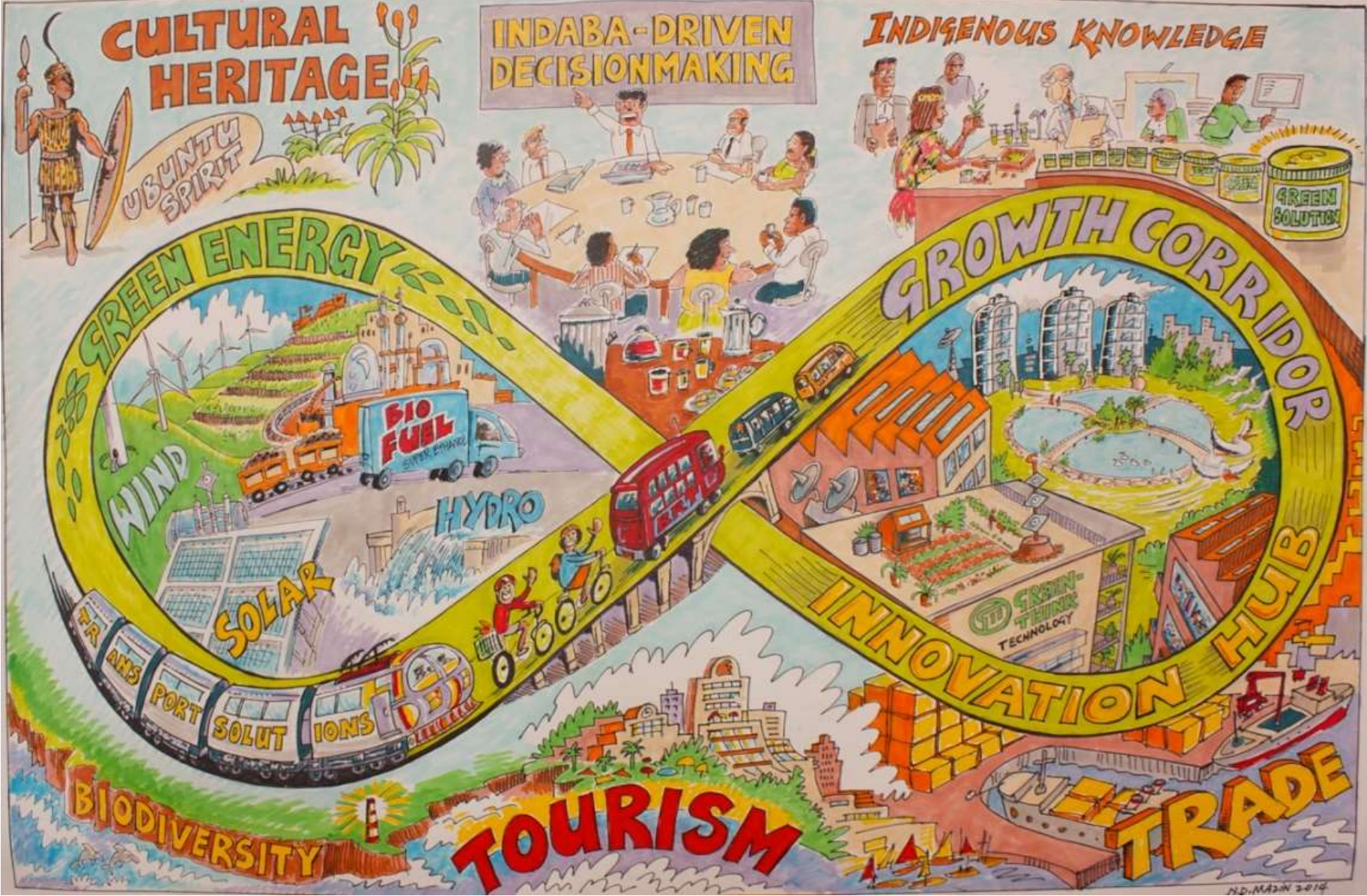
KWADUKUZA LOW EMISSION STIMULUS

□ ICLEI Programme- 2013

➤ Capacity / Technical Support



KWADUKUZA LOW EMISSION VISION





Where is KwaDukuza?
Click on the map to view in google maps



GENERAL INDICATORS

POPULATION: 231 889	POPULATION DENSITY PER 1000: 735
CAR OWNERSHIP: 36% OF HOUSEHOLDS	POPULATION DENSITY: 3.2%
ACCESS TO ELECTRICITY FOR LIGHTING: 90%	CAR MILE PER PERSON, PER YEAR: 0.29%

ENERGY USE & EMISSIONS BY TYPE

ENERGY (GJ) | TONNES

ELECTRICITY: 2 299 023 657 529
WATER: 1 864 415 136 023
PETROL: 1 130 520 85 559
BIODIESEL: 18 681 1359
PROPANE: 1689 118 174
COAL: 1363 92
TOTAL: 5 316 699 988 727

ENERGY USE %

43.2%

35.1%

21.3%

-0.4%

EMISSIONS %

65.8%

13.6%

11.8%

9.9%

-0.1%

SCOPE 1 EMISSIONS: 509 697t | **SCOPE 2 EMISSIONS: 473 416t** | **SCOPE 3 EMISSIONS: 25 289t**

1 Gigajoule = **100W** LIT FOR 6 MONTHS

ENERGY (GJ) | TONNES

TRANSPORT: 2 982 548 220 652
RESIDENTIAL: 813 816 223 516
COMMERCIAL & INSTITUTIONAL: 577 509 158 815
INDUSTRIAL & MINERAL: 577 705 272 523
AGRICULTURE: 268 241 71 566
LOCAL GOVERNMENT: 64 032 15 132
AGRICULTURE: 40 048 11 233
WASTE: - 9675
AIR AND LAND: - 25 289

ENERGY USE %

56.1%

15.3%

10.9%

10.9%

4.9%

1.2%

0.8%

EMISSIONS %

27%

22.2%

21.9%

15.7%

7.1%

2.9%

1.5%

1.1%

1%

TOTAL ENERGY USE & EMISSIONS

TOTAL: 5 316 699 | CARBON EMISSIONS: 1 008 402t

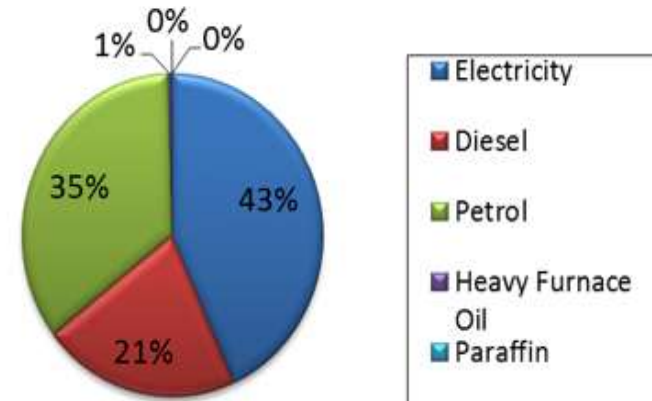
4.36t TONNES CO2e | PER PERSON



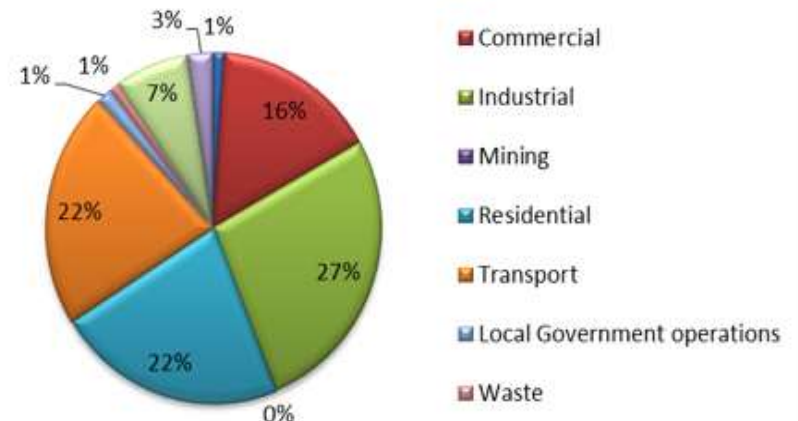
ENERGY PICTURE AT A GLANCE

- ELECTRICITY DOMINANT ENERGY TYPE USED (**43%** OF TOTAL 5.3 MILLION GJ OF ENERGY CONSUMED)
- LIQUID FUELS OF DIESEL (**21%**) AND PETROL (**35%**) BEING THE SECOND AND THIRD DOMINANT ENERGY TYPES USED RESPECTIVELY.
- **98%** EMITTED BY THE COMMUNITY (I.E. INDUSTRIAL, RESIDENTIAL, TRANSPORTATION ETC. ACTIVITIES).
- **2%** EMITTED DIRECTLY BY THE LOCAL AUTHORITY OWN OPERATIONAL ACTIVITIES

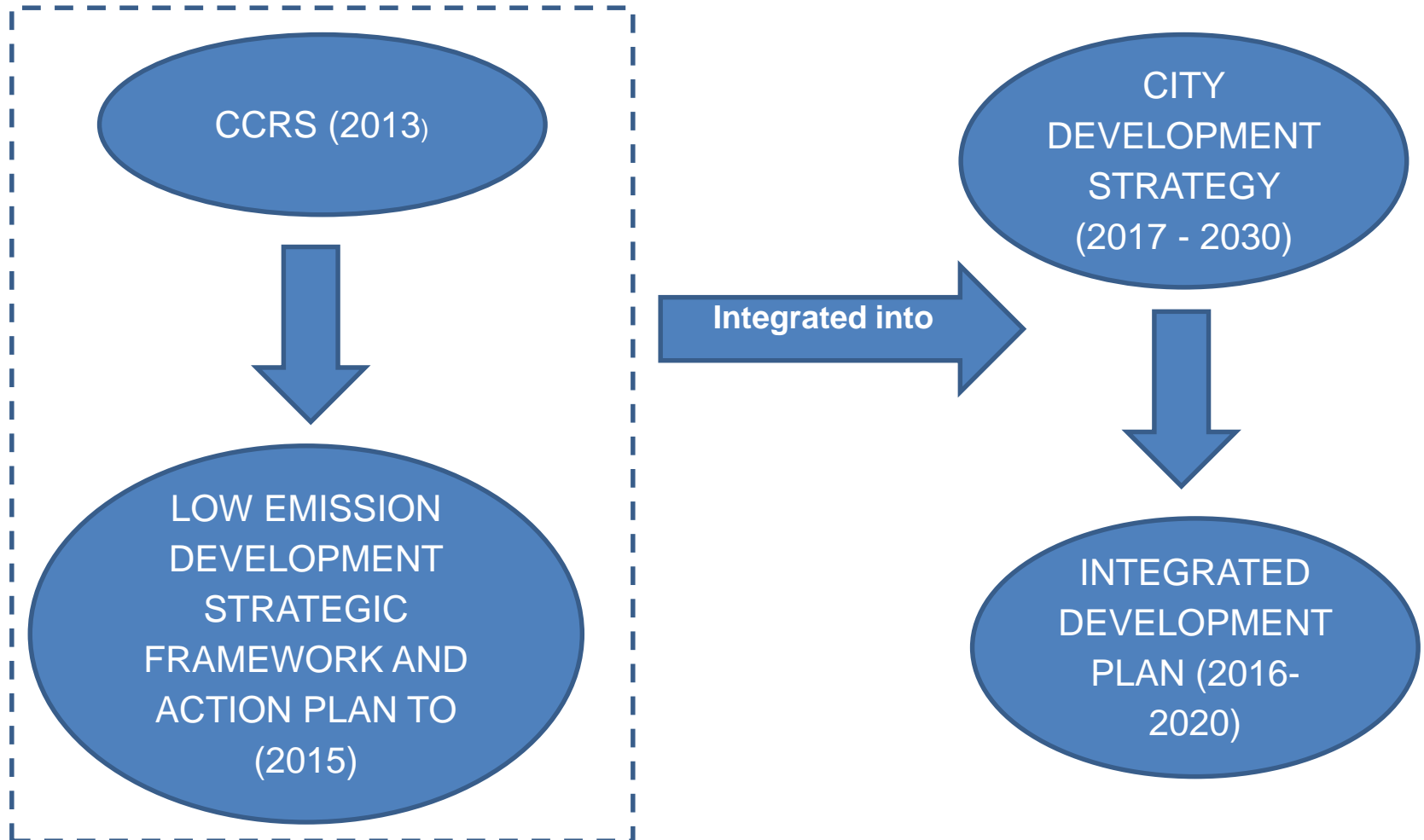
KDM Energy Use (GJ) by Fuel, 2012



KDM Emission (tCO₂e) by Sector, 2012



ALIGNMENT OF MUNICIPAL OBJECTIVES



AFFIRMATION OF LOW EMISSION TRAJECTORY

❑ **KDM SIGNATORY OF :**

- Compact of Mayors Coalition,
- Durban Adaptation Charter (DAC) And
- Active Member of Central KZN Climate Change Compact (KZN CCC),

❑ **MEMBER OF ICLEI-LOCAL GOVERNMENT FOR SUSTAINABILITY.**

❑ **DEVELOPMENT APPROVAL- CONDITIONS:**

- applicable standards on energy efficiency and water conservation,
- Green Building Guidelines

❑ **IMPROVED PUBLIC-PRIVATE PARTNERSHIPS/ STAKEHOLDER ENGAGEMENT,**

❑ **INSTITUTIONALISATION OF CLIMATE CHANGE AND ENERGY EFFICIENCY – POLICY, AWARENESS (ON GOING),**

- City Development Strategy - scenario planning outcomes

AFFIRMATION OF LOW EMISSION TRAJECTORY

- BETTER UNDERSTANDING BY LOCAL BUSINESS THAT CLIMATE CHANGE IS PART OF THEIR BOTTOM-LINE,
- INCREASE COMMUNITY PARTICIPATION ON CLIMATE CHANGE RESPONSE RELATED PROJECTS, ENVIRONMENTAL FORUM COMMUNITY CHAMPIONS,
- BETTER ACCEPTANCE BY THE MUNICIPAL LEADERSHIP THAT ENERGY EFFICIENCY/RENEWABLE ENERGY IS NOT A THREAT TO ITS MAIN REVENUE SOURCE,
- CLIMATE CHANGE BUDGET ALLOCATION

AFFIRMATION OF LOW EMISSION TRAJECTORY: PROGRAMMES/ PROJECTS

- ❑ **IDENTIFICATION OF AND IMPLEMENTATION OF PROJECTS:**
 - Solar Powered Streetlights
 - Paperless Administration:
 - Electronic agenda
 - Office Recycling Project (as outcome of staff awareness),
 - Local Leadership Initiative:
 - Household Energy Efficient Kit Project- Groutville Care Homes Project (20 Homes)
 - Hotbox Rollout Project,

CHALLENGES

- ❑ **MINDSET:** BUSINESS AS USUAL VS LOW EMISSION TRAJECTORY
- ❑ **SPATIAL INEFFICIENCY:** FRAGMENTED SETTLEMENT PATTERNS
(E.G. GATED ESTATES)
- ❑ **MOBILITY,**
- ❑ **RESOURCES:** FINANCIAL, HUMAN CAPACITY
- ❑ **ACCESS TO TECHNOLOGY,**
- ❑ **RELEVANT LEGISLATION,**
- ❑ **COMPETING PRIORITIES:** SERVICE DELIVERY BACKLOGS VS NEW
TRAJECTORY

LESSONS LEARNT

- ❑ **POLITICAL CHAMPION & BUY-IN**
- ❑ **CLIMATE CHANGE CHAMPIONS (TECHNICAL) - ASSIST IN MAINSTREAMING LOW EMISSION DEVELOPMENT WITH OTHER LINE DEPARTMENTS**
- ❑ **BUILDING PARTNERSHIPS**
- ❑ **BASELINE INFORMATION: KEY-MANAGE AND MONITOR WHAT YOU KNOW – SET TARGETS AREAS TO FOCUS ON (DEVELOP CLIMATE CHANGE POLICIES)**
- ❑ **BUILDING MOMENTUM - QUICK WIN PROJECTS**
- ❑ **REPORTING ON MUNICIPAL ACTIONS ON GLOBAL PLATFORMS ASSISTS TO UNLOCK OPPORTUNITIES**
- ❑ **ESTABLISHING APPROPRIATE (COMMUNITY) STRUCTURES**
- ❑ **CONTINUOUS AWARENESS WITH RELEVANT STAKEHOLDERS (E.G. POLITICAL, ADMINISTRATION, COMMUNITY).**



THANK YOU...



MAVA NTANTA
DIRECTOR: DEVELOPMENT PLANNING
mavan@kwadukuza.gov.za