

Ekurhuleni Metropolitan Municipality –Development of Emission Inventory Project

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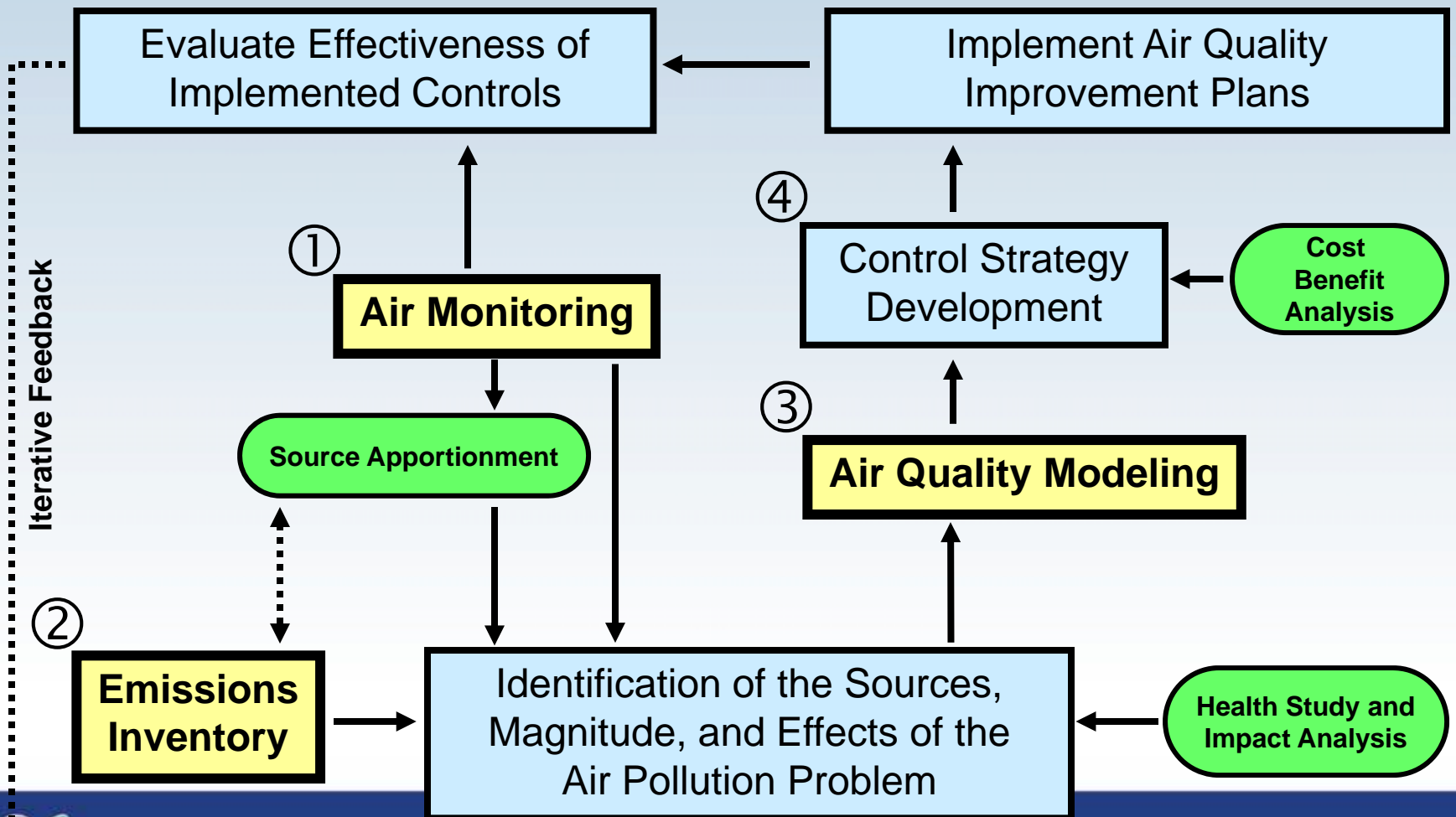
INTRODUCTION

- Ekurhuleni is the Industrial hub of South Africa including Africa
- There are more than 20 Industrial Areas with which account to +- 8 Sectors in terms of classification
- Ekurhuleni had Air Quality Plan with no emission inventory and is in Highveld Priority Area
- There is a need to run dispersion modelling for impact assessment of human health, environment, determine pollutants levels

APPROACH TO EMISSION INVENTORY

- A Questionnaire was established by the Service Provider to collect the Information.
- The target was all the point sources including the “Schedule Processes”.
- One on one meetings were done with Sections that had information on school boilers, pizza hut etc.
- The Service Provider was to visit the Industry to explain the project and hand the questionnaire
- All the information had to be send to the Service Provider

Air Quality Improvement Process (The Big Picture)



PROJECT REQUIREMENTS

- Identify all the point sources within Ekurhuleni Municipality as the 1st phase of the project
- To input all the collected information into a software called EMIT
- To correlate the results in terms of criteria pollutants contribution .
- Emission Inventory to include small scale non domestic fuel burning appliances.
- To engage all the Stakeholders in the project.
- EKURHULENI TO DEAL WITH BACKLOGS BY ISSUING PROVISIONAL REG CERT

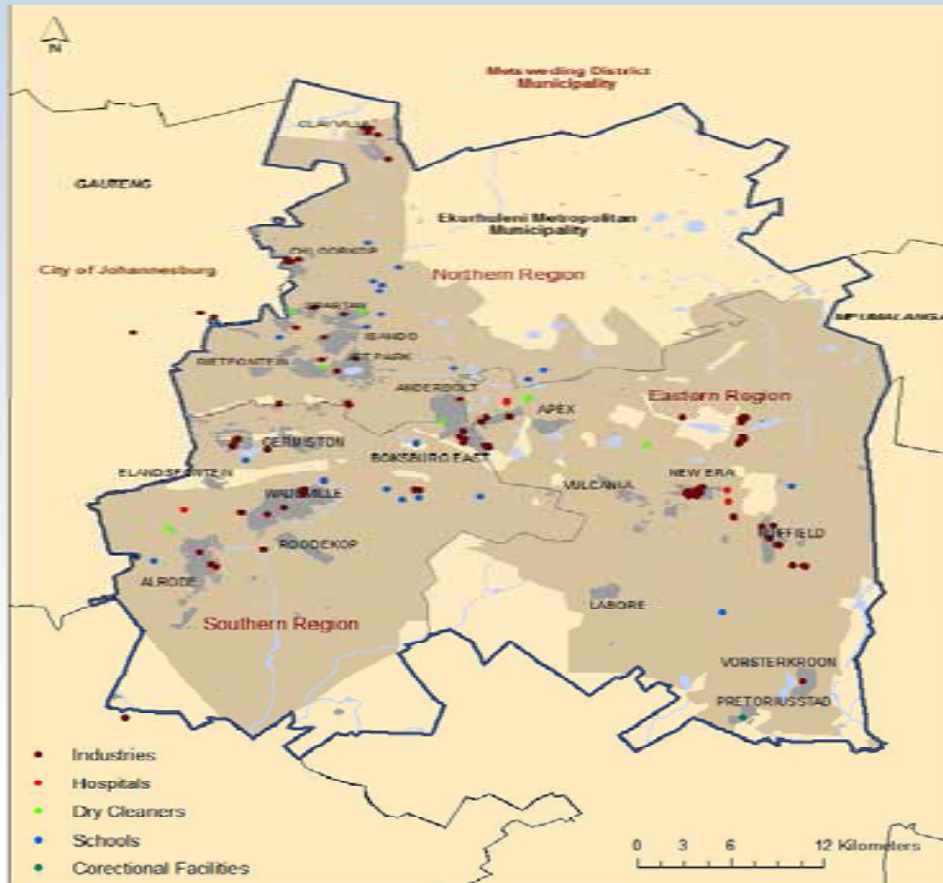
POINT SOURCE IDENTIFICATION

- The existing local Air Quality Forums were used as point of entry .
- The available list of “Schedule Process” from DEAT/CAPCO offices were also used for info collection
- Ekurhuleni GIS Database of Industrial stands was used.
- Yellow pages and Google on the registered industries.
- Referrals from neighbouring industries

PROJECT INFORMATION ANALYSIS

- The provided information was fed into EMIT having emission factors built into it.
- Process Activity rates were calculated and quantities expressed per annum e.g M.t of coal, wood or oil used.
- The pollutants emission rates were calculated in g/s
- Other information considered was stack diameter, stack height, exit velocities, source coordinates and unique name of the source.
- Information such as Operational hours per week/year, company owning stack, authorisation code etc.
- Where information was inadequate a rule of thumb or assumptions were used

MAP INDICATING POINT SOURCES



ASSUMPTIONS AND INFORMATION

- Where Operational Hours were not provided assumptions were made in terms of process nature
- Stack Diameter and Exit velocities especially for small boilers, school boilers were estimated.
- Stack Height and Exit temperatures were also estimated in cases not provided
- Co-ordinates were identified using street address in a program called “Mapsource”
- The notes section of EMIT was used to describe type of boilers, type of engineering controls etc

PROJECT CONTRIBUTION TO LEGISLATION AND POLICY

- Emission Inventory Project created an Awareness to EMM on concentrations of criteria pollutants present within.
- The Emission Inventory Project cautioned EMM to prioritize its air quality control measures and create a Structure for AQMS
- The project made EMM to know what type of monitoring equipments to buy and which reduction project to budget for
- The project cautioned EMM to develop Air Quality By-laws and areas to capacitate staff
- The project created a need to align it to AQMP, Highveld Priority Area.

PROJECT LINKAGE TO NATIONAL, PROVINCIAL

- The Emission Inventory Report will be used in the creation of Highveld Priority Area AQP
- The report will be presented to Gauteng Air Quality Forum
- The project link to National Basa Njengo Magogocal smoke reduction strategy
- EMM will improve the project by appointing AQO to regularly update the project
- The project will be integrated with other project like energy saving, integrated transport plan and climate change strategy

LESSONS LEARNT FROM EMISSION INVENTORY PROJECT

- The success of the project depend in all the sources returning the questionnaire for representativity
- The industries need to be followed up and encouraged to provide the information
- Emission Inventory need to be updated regularly to be reliable and representative
- Feed the correct information at the right place
- It is a good prediction tool to can characterize criteria pollutants within an area
- It assist with the plan of where to start and which pollutant, type of monitoring equipment

LESSONS LEARNT CONTINUES

- The Emission Inventory assist on what type of modeling will best suite the area
- It can be a useful tool on classification or categories of industry within an area
- The information from Emission Inventory must always be linked to monitoring results/data
- The information from the report must be communicated to stakeholders
- It needs Quality Assured data to can run modelling

CONCLUSION

- Emission Inventory is a good tool in Air Quality Management Functions
- It assist with better planning and budgeting for resources
- It enhance Air Quality Official skills in Air Quality Management components integration
- It must integrate/talk to other Air Quality Management functions, Development Planning Schemes and landfill management systems.

I THANK YOU VERY MUCH

WITH COMPLIMENTS FROM MUSA
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