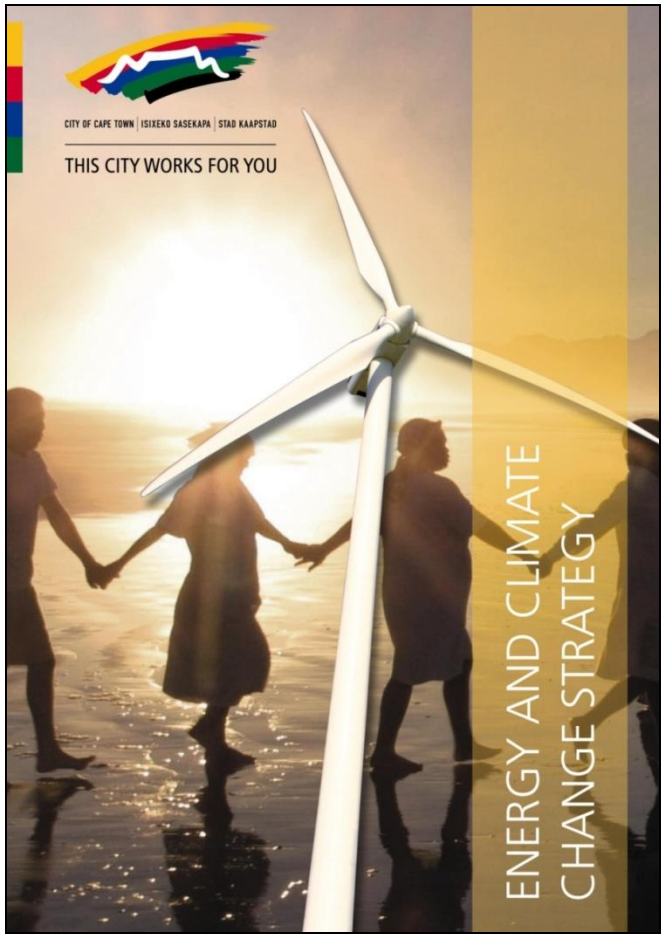
CITY OF CAPE TOWN | ISIXEKO SASEKAPA | STAD KAAPSTAD




# Integrated Resource Plan, 2010
# Public Hearings Input

**Sarah Ward**
**Energy and Climate Change Branch**
**City of Cape Town**

# Process

- Opportunity to make such a submission is welcomed

- Lack of representation of Metros/urban demand in process
- Unclear how inputs by cities to date have been included in the IRP2
- IRP2 has far reaching implications for metros – effective representation on Task Team or other IRP process bodies is necessary

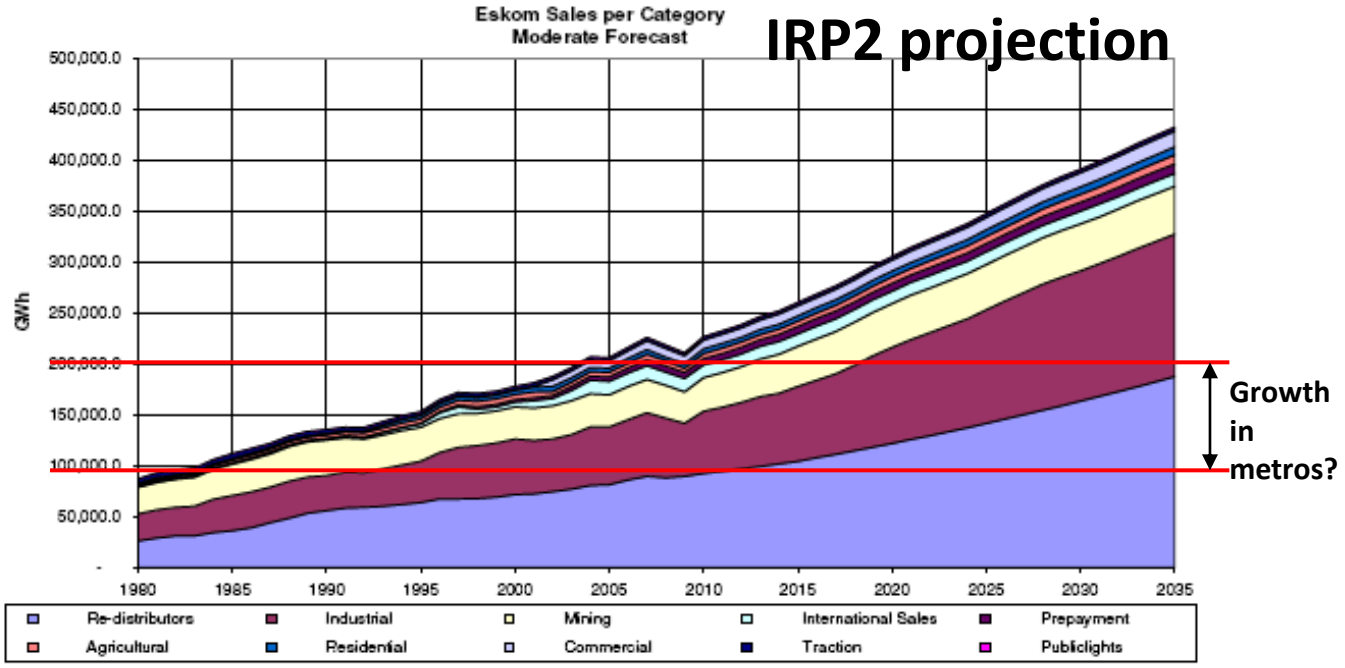
# Demand Forecast

IRP2 doubles demand by 2034 - is this in line with Economic Development Strategy - based on mining and minerals?

Metros = 50% of SA total electricity demand but Metro demand forecast is poorly factored into overall demand forecast – needs to be accurate

Cities play key role in managing demand.

National govt also needs to regulate: eg. SANS 204, PCP



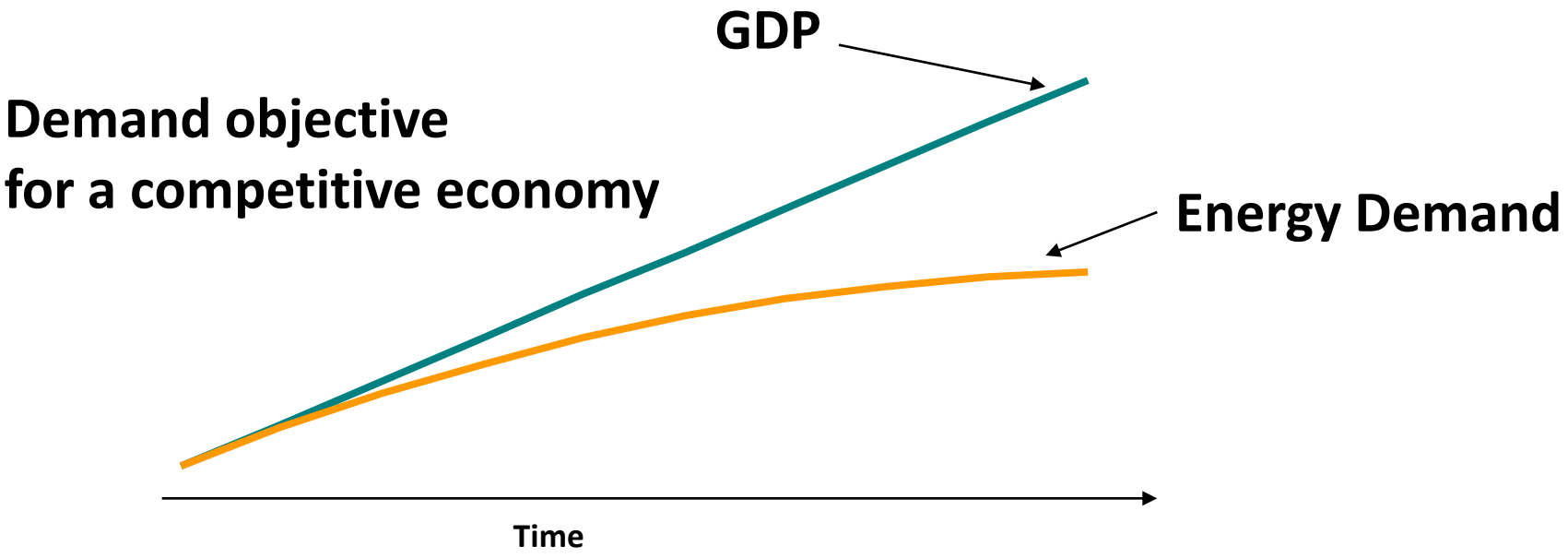

**Source:** IRP 2010 Energy Forecast Revision 2 Report by Systems Operations and Planning

# EEDSM poorly considered

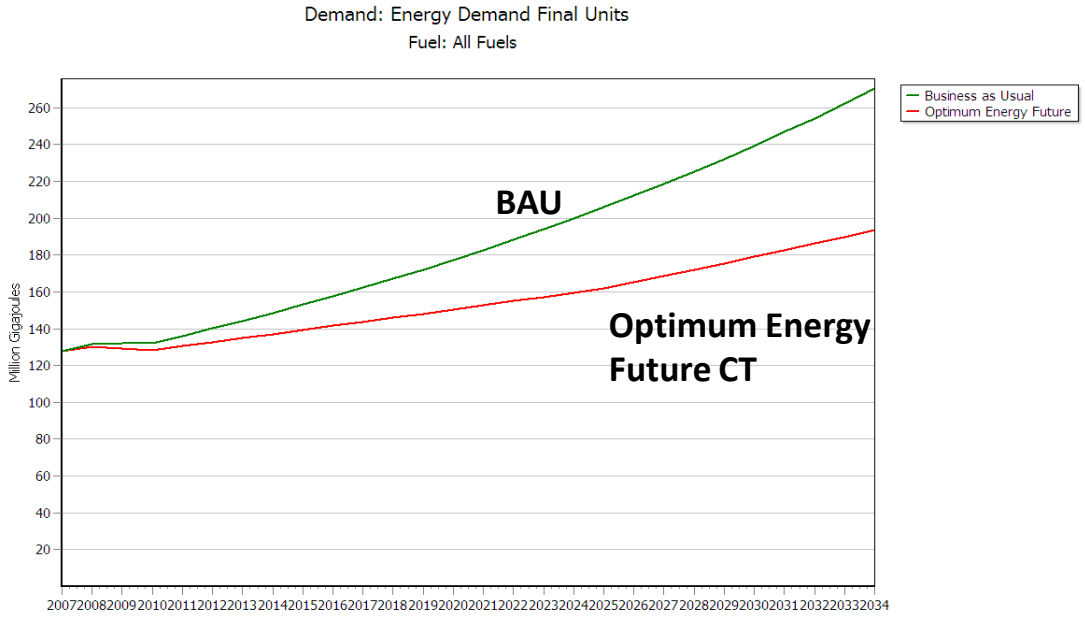
An IRP is supposed to consider all options, not just supply options

An IRP should put demand reduction options on par with supply options in order to make truly “least cost” choices.

EEDSM investments need to be on equal footing to supply inv



# Cape Town Energy Demand and Supply Scenarios

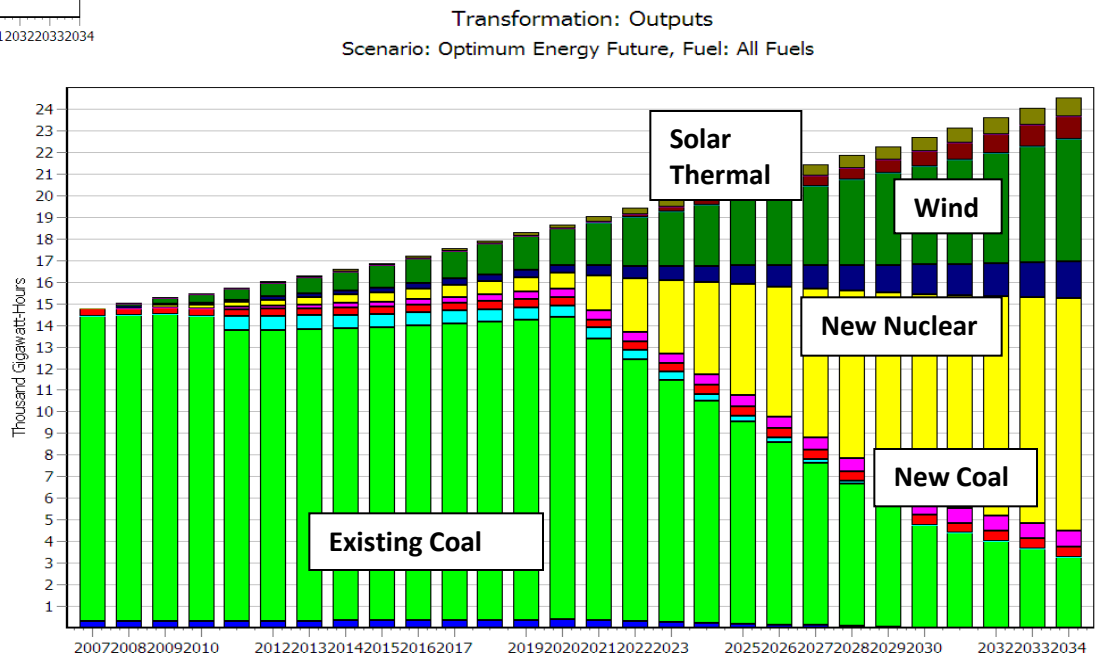



**Optimum Energy Future total demand**

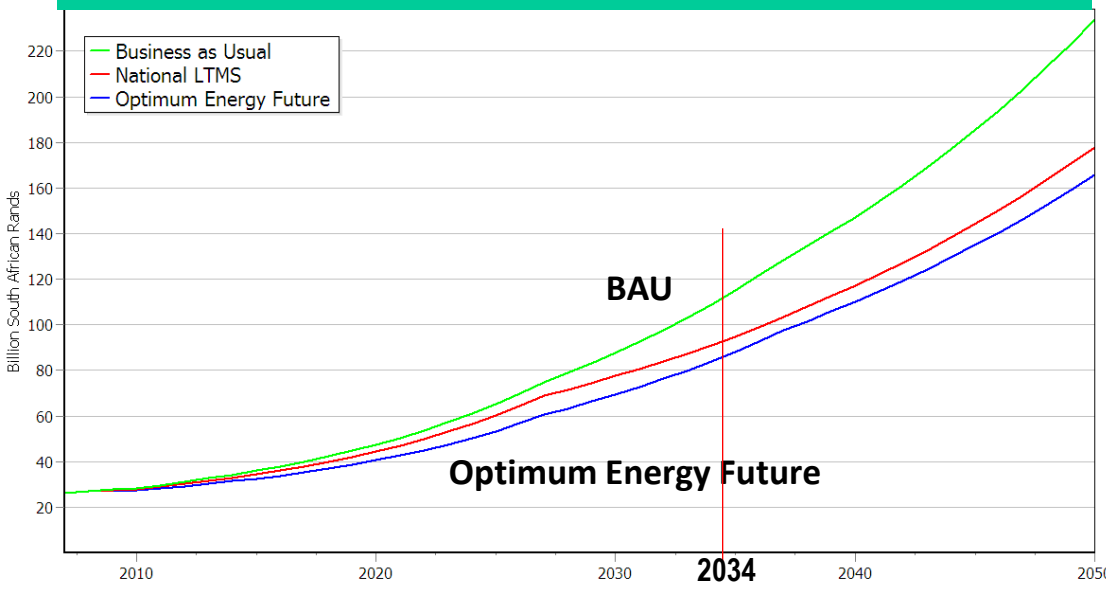
Energy efficiency measures result in lower energy demand than Business as Usual without compromising energy service delivery.

**Optimum Energy Future supply scenario -**

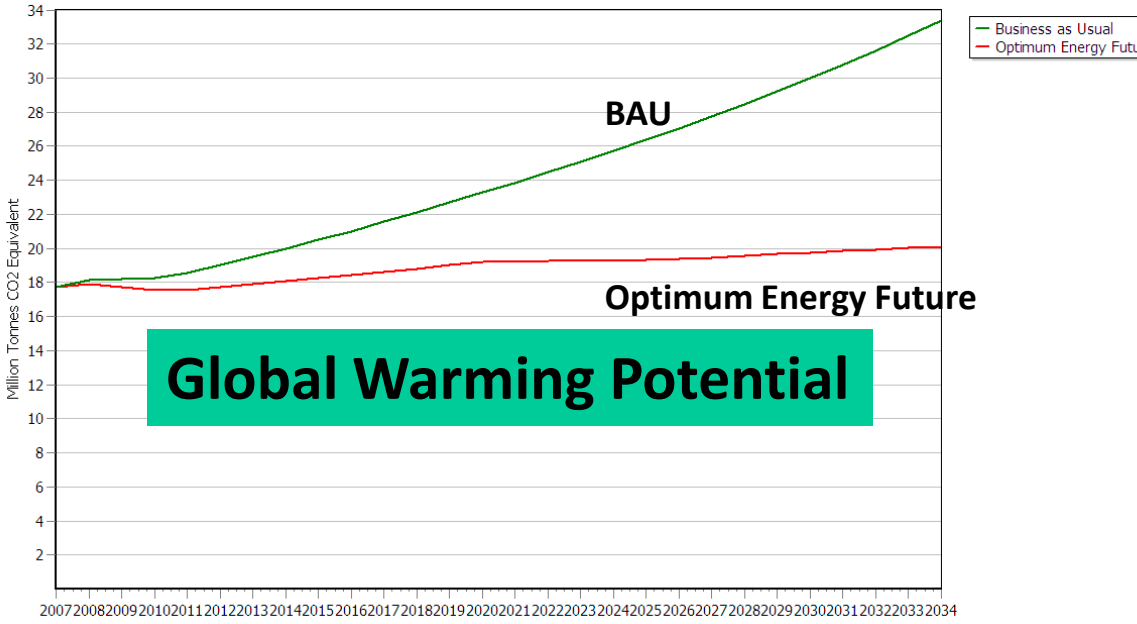
appropriate realistic mix based on optimising cost, carbon, energy security, jobs.



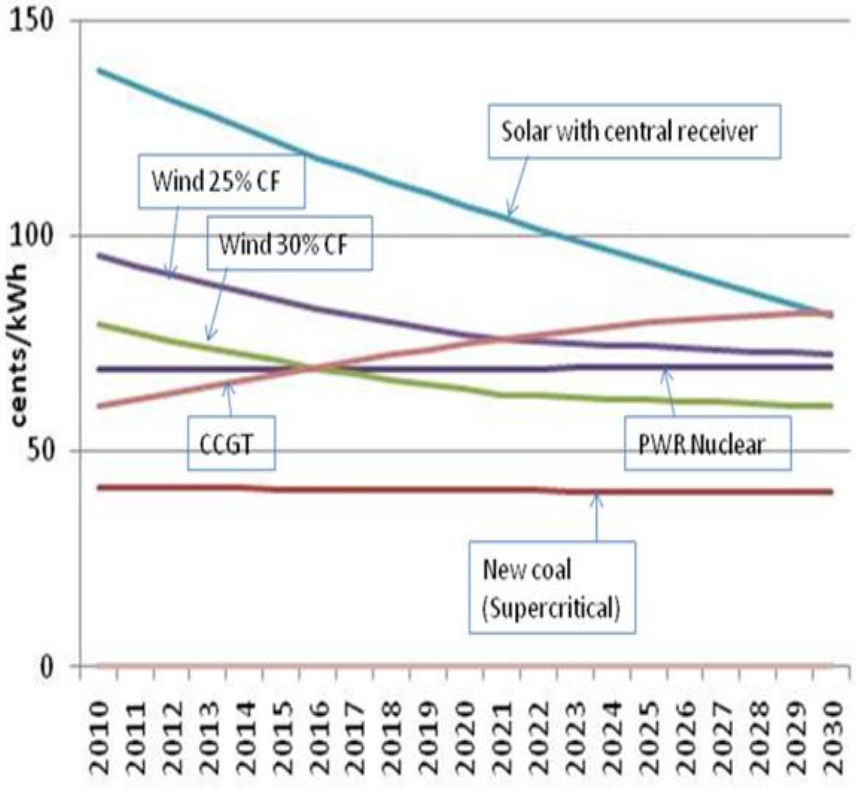
# Total end-user expenditure




Total end-user expenditure and GHG emissions are significantly lower for Cape Town's O.E.F compared to BAU



# Generation costing




(from SNAPP elec supply planning model, energy research centre, UCT)

- Cost curves with learning – not included in IRP
- RE costs expected to decrease
- Conventional fuels to increase due to environmental, incl. carbon, and resource access costs
- IRP does not cost in additional capacity transmission and distribution costs: to take up additional 8400MW coal R50 to R70bn wd be required from ADDITIONAL tariff increases - EEDSM is cheaper.

# Municipal role in generating electricity within its own network

- Municipalities can play a significant role in generating power within their own distribution networks and so help meet energy demand

BUT this needs to be facilitated:

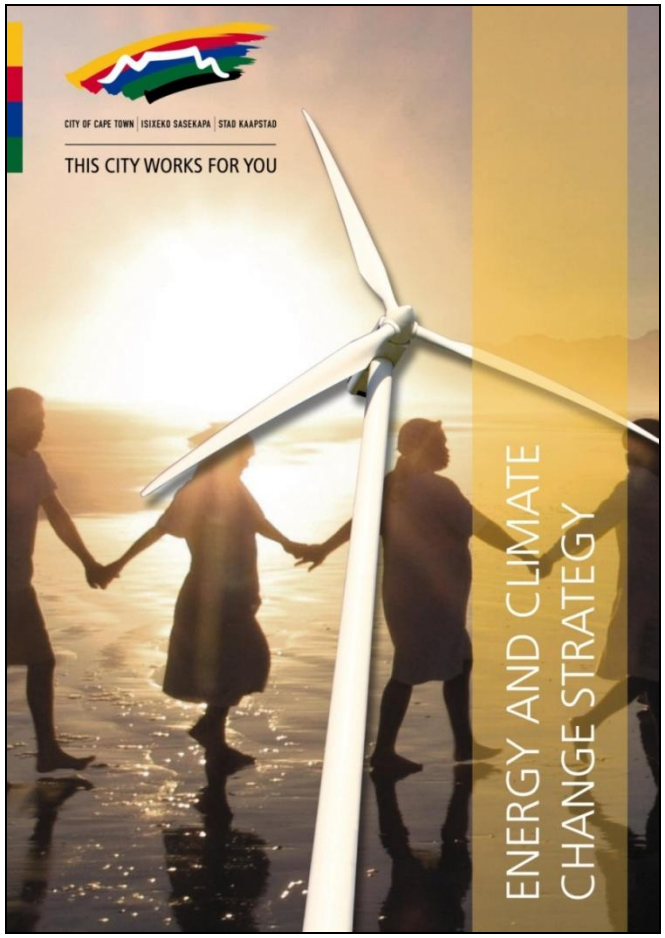
- Lack of clarity as to whether cities can purchase this power or must sell to Eskom/single buyer? no response from NERSA on this
- Municipalities need to be able to claim the REFIT
- Small scale REFIT important for developing urban generation capacity
- Embedded distribution reduces infrastructure costs

# High Renewable Energy future results in a significant increase in jobs created

| Job creation | Jobs/GWh | Proportion in W Cape* | BAU | Optimum Energy Future | Nat LTMS |
|---|---|---|---|---|---|
| Municipal Waste | 12.2 | 90% | 0 | 123,231 | 120,579 |
| Solar Thermal Elec | 8.7 | 10% | 0 | 23,078 | 21,040 |
| Wind | 9.1 | 70% | 280,397 | 844,967 | 806,994 |
| New Nuclear | 0.1 | 50% | 320 | 1,667 | 5,992 |
| New Fossil Base | 0.7 | 0% | 0 | 0 | 0 |
| New mid and peak | 0.4 | 40% | 4,858 | 3,873 | 3,777 |
| Existing Hydro | 1.0 | 30% | 4,891 | 4,451 | 4,361 |
| Existing mid and peak | 0.2 | 30% | 454 | 429 | 427 |
| Existing Base | 0.5 | 0% | 0 | 0 | 0 |
| Existing Nuclear | 0.1 | 60% | 499 | 286 | 286 |
| **Total jobs from generation** | | | **291,418** | **1,001,981** | **963,455** |
| SWHs | 31.5 | | | 799,828 | 799,828 |
| Energy Efficiency | 0.23 | | | 11,329 | 11,329 |
| **TOTAL ALL** | | | **291,418** | **1,813,138** | **1,774,612** |

# In conclusion

- Take account of the changing environment: in Metros electricity demand and supply issues go far beyond the boundaries of Electricity Depts
- Cape Town and all the metros need an IRP that provides an energy secure future which optimises costs, jobs, and carbon emissions and costs energy supply options and EEDSM on an equal footing
- The current IRP commits the country to substantial investment in limited supply options and will constrain EEDSM potential which will limit capacity of Metros to do their share
- Alignment of policies is essential for a stable and secure future – national carbon targets (National CC Response Green Paper) do not inform the IRP; is it aligned with the Economic Development Strategy?




# Thank you

**Sarah Ward**
**Energy and Climate Change Branch**
**City of Cape Town**