UNIDO Activities

Climate Change Response Measures & Responses to Carbon Tax Impacts

Highlights: 2014 - 2018

GLOBAL ENVIRONMENT FACILITY
INVESTING IN OUR PLANET

UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

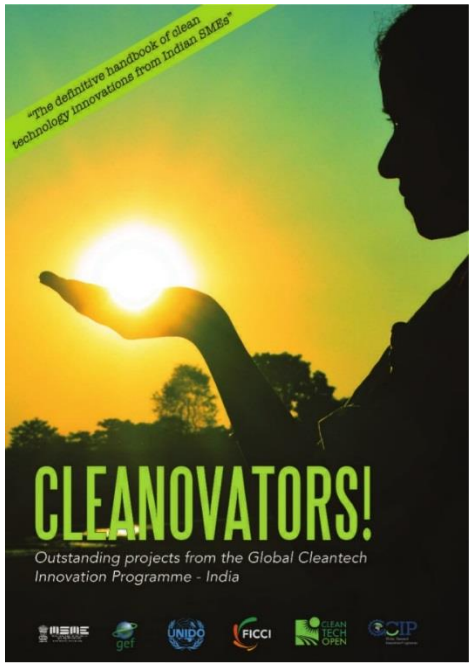
Global Cleantech Innovation Programme for SME's

- Find, foster & connect Innovators, Business Mentors & Funders (small, start-up).
- Highly pertinent to international/regional/national priorities.

- Needs and interests of its beneficiaries.
- Multi-country programmes.

- 7 areas:

  - Water Efficiency (critical)
  - Energy Efficiency (critical)
  - Renewable Energy
  - Waste Beneficiation
  - Green Transport *(Fuel & Electric Vehicles)*
  - Green Buildings
  - Environmental Protection



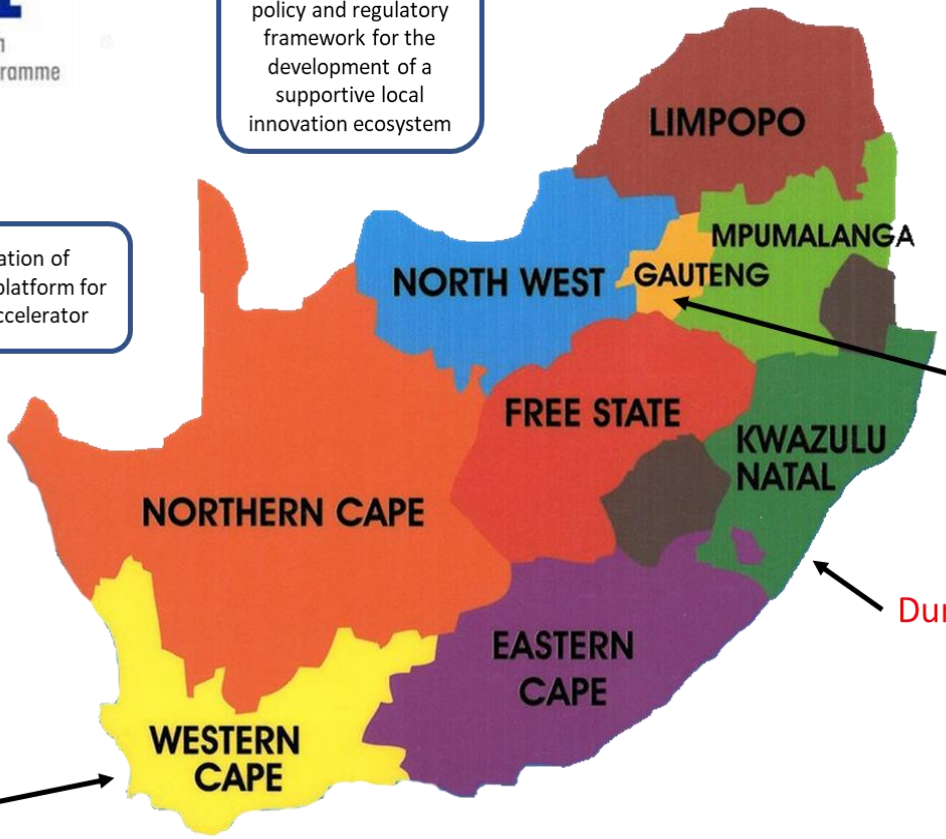
GCIP Outreach in SA

GCIP Global Cleantech Innovation Programme

Institutional capacity-building for the organisation of the Competition–Accelerator

Strengthening of policy and regulatory framework for the development of a supportive local innovation ecosystem

Establishment and operation of national-level coordinating platform for Cleantech Competition–Accelerator



Pretoria / Johannesburg

Durban

Cape Town

SA GCIP Project interventions

- Annual, national accelerator programmes organized, including post-programme support.
- Successful clean technology innovators participated in regional and global networking activities for market readiness and market share – greening the economy.
- Various panels established, business mentors recruited and trained, etc.
- Experience shared with other countries.
- Possibility to replicate GCIP in the SADC region, Nigeria, Kenya, Middle East.
- National needs assessments, national priorities – by sector, skills, industrial reality.
- Carbon calculations, KWh saved and costs saved!

GCIP SA Poster Companies

- **Blue & Green Tower – Mr. Andre Nel – Renewable Energy**

- 2016 Turnover: ZAR 615,000.
- 2017 Turnover: ZAR 1.76m.
- 2018 Turnover: ZAR 3.9m
- 2019 Turnover: ZAR 40m.

- Currently valued at ZAR 15m.

GCIP SA Poster Companies

- **Vehicle Energy Harvesting System – Mr. Clement Mokoenene**

- **Portable power plant that harnesses the power of traffic by extracting pressure from the road and using it to drive a turbine and generate renewable electricity. This transforms roads and traffic into a major alternative energy source.**

GEF South Africa Industrial Energy Efficiency Phase II (IEE) Project

Project Focus Areas

1: ***Data Quality Improvement*** to Facilitate Data Rich Industrial Energy Efficiency and Energy Management Policy Implementation.

2: Strengthening Policy Implementation and ***Support Frameworks*** for Energy Management Systems (EnMS), and Energy Systems Optimization (ESO) and Energy Management Standards.

3: Mainstreaming EnMS & ESO ***Training and Skills Development*** Programmes.

4: ***Investment Promotion in IEE*** through demonstration of EnMS and ESO and support to access financial mechanisms and incentives for industry and selected commercial sectors.

5: EnMS and ESO Awareness, Promotion, Service Demand Generation and ***Lessons Sharing***.

Possible Carbon Tax in South Africa:

- **Who:**

  Business and Companies

  Significant energy users/carbon emitters – industry.

- Those dependent on national Utility, Eskom (annual price hikes)
- Internal combustion engines (ICE) and liquid fossil fuels.

- **Tax Rate:** R120 per tonne of CO2e – “lite” transitioning period.

- **Power quality and holistic approach to energy in manufacturing.**

Socio-economic realities of Carbon Tax:

- Behaviour Change methods (behavioural economics)
- Unemployment risks in key manufacturing sectors (iron and steel)
- Petrol and Diesel car owners – estimated 24% fuel price increase!

- Knock-on effects:
  - fuel price hikes = cost of living and cost of business price hikes.
  - Less cash flow in industry and risks for lower wage increases of workers.

- Some industries will not reduce emissions by 2020 = higher tax, higher consumer prices & higher transaction costs,
- slowing economic growth & in turn, reducing consumer spending.

IEE Project Highlights (most recent in 2018):

- 41 ESO assessments, 25 demonstration plants, 21 case studies completed.
- Support for DoE's **12L Tax Incentive** through the review of industry 12L applications and Tax Incentive Incubation Programme. (***95c/kWh)***
- Tiger Brands implementation projects at their Mobeni & Jacobs plants produced combined savings of 15.3 GWh equating to ZAR 3.9 million.
- IEE Project represented at first regional mine closure workshop for the Mpumalanga Coalfields.
- Training: **1 012 candidates** were trained in 75 training events culminating in the qualification of 24 EnMS experts.
- **411 women** were trained across various disciplines representing 40% of total delegates trained.
- 45 EnMS and 17 Energy System Optimisation expert candidates trained.
- Training support partnerships in Namibia, Mauritius, Mozambique, Botswana.

Project Savings in 2017

Project Period	Energy Saved	CO2e Mitigated	Rands Saved
2017	460 GWh	273 000 tonnes	ZAR 138 million
Phase II	799 GWh	600 000 tonnes	ZAR 429 million
Project Life	4 280 GWh	3.0 million tonnes	ZAR 3.3 billion

Cleaner Mobility context: Opportunities to reduce negative carbon tax impacts

EV's form part of South Africa's NDC's.

- SA has no official legislation concerning EV's yet.
- SA has highly established liquid fuels industry, making transition to cleaner fuels slow.
- SA imports vehicles – Euro carmakers moving towards EV and alternatives – market shift.

Energy Data and Emissions Reporting

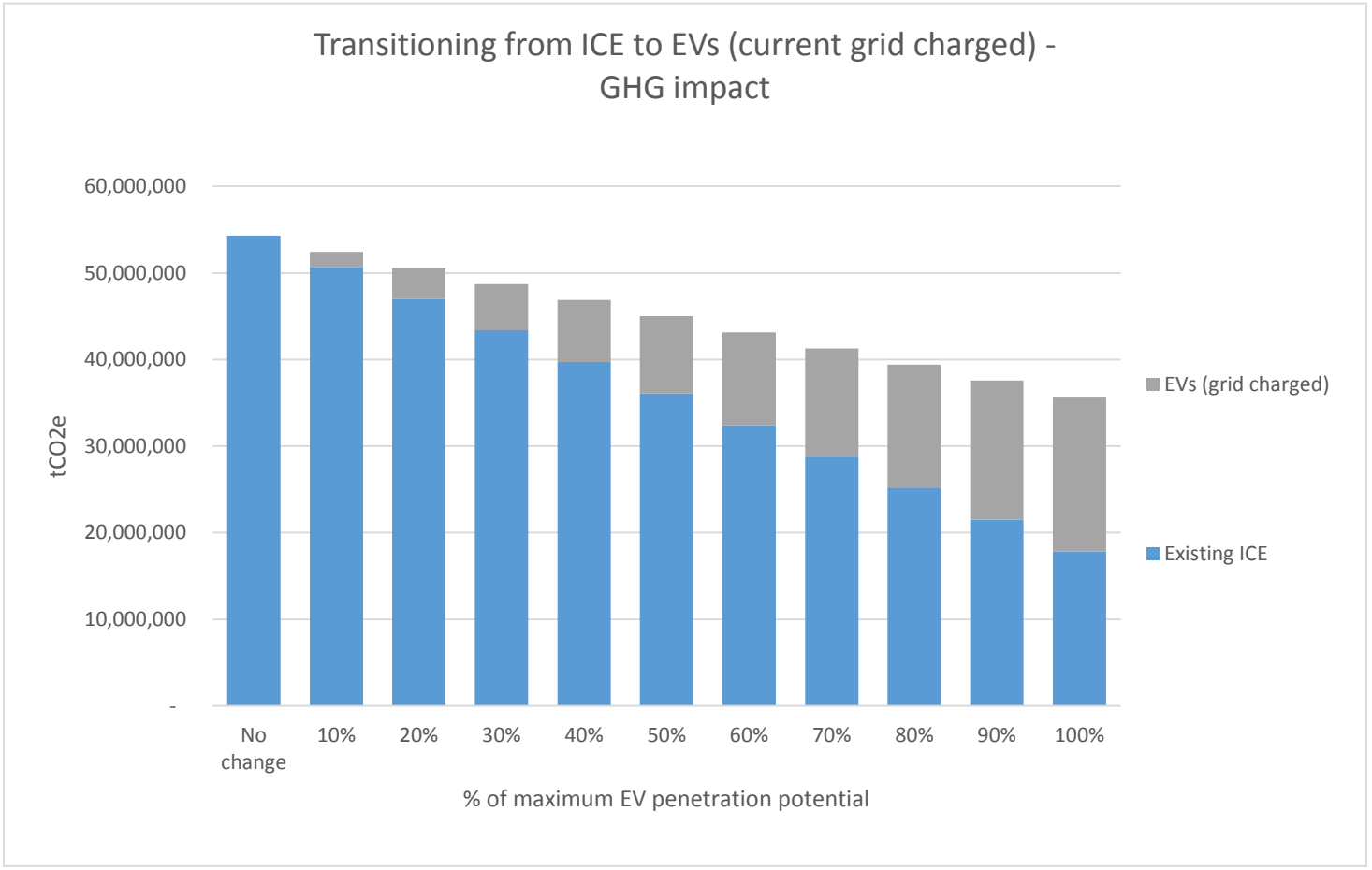
- Databases, baselines, validation of energy generation and consumption needed for accurate policy developments – comparative data relevant for SA.
- EV's charged by renewables and by traditional grids have greater potential at achieving reduced GHG emissions.

EV's: mitigating carbon tax

- EV's will by themselves be a response measure: EV owners charging with RE = save.
- Solar charging infrastructure & electric highways will alleviate tax burden.

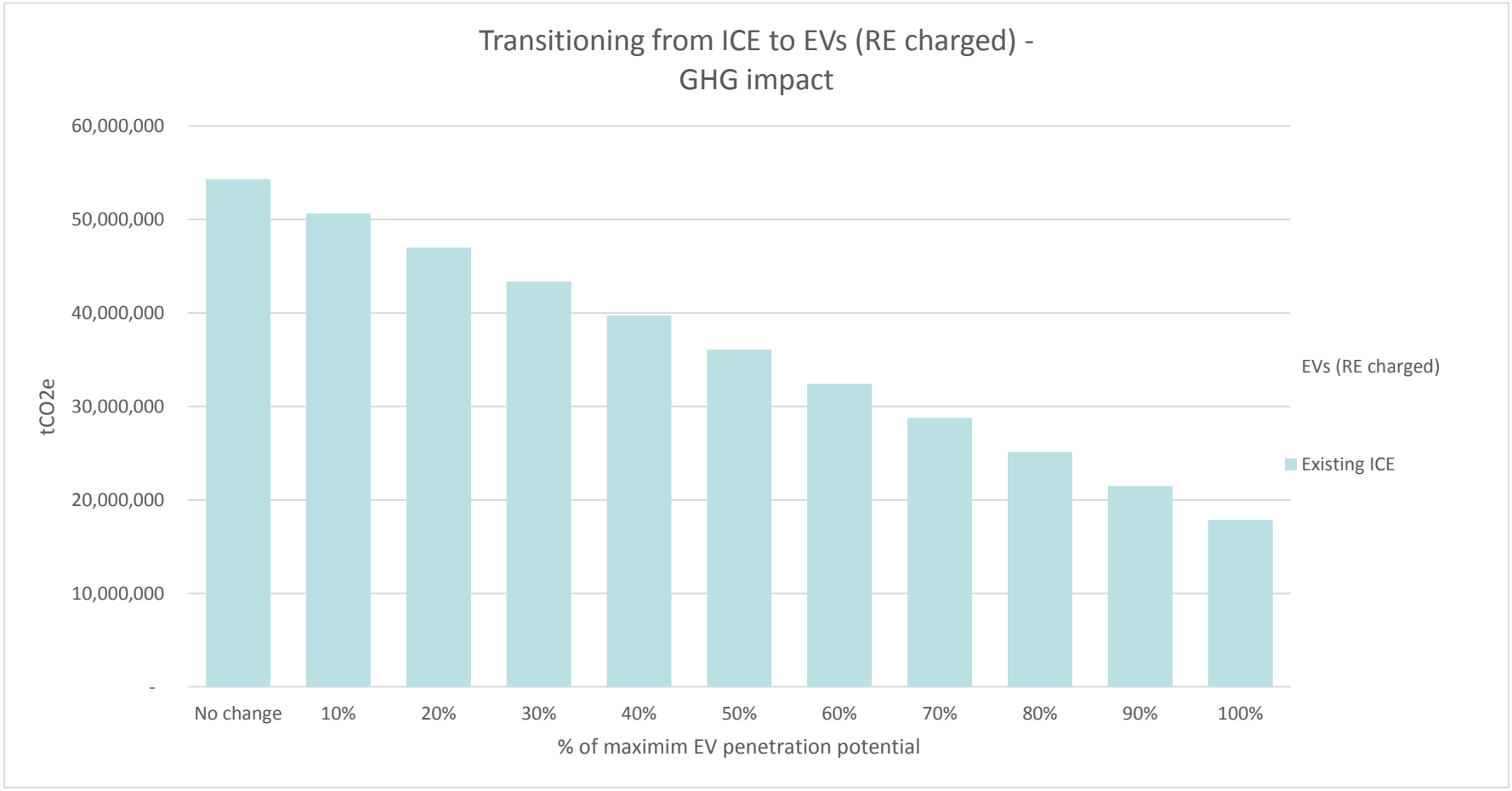
EV benefits

GHG impacts associated with EVs charged using the existing grid



EV benefits continued

GHG impacts associated with EVs charged using renewable energy sources



Conclusions and Suggestions:

- Clean technology businesses and sustainable procurement = lower risks for carbon tax burden in industry and along the value chains.
- Innovative funding mechanisms for low carbon technologies needed to increase climate resilient uptake of goods and services; eco-labels.
- Economic diversification and low carbon pathways need cross-cutting and integrated policy instruments to protect industrial development.
- Energy Management Trainings programmes required to place experts into the manufacturing sector to know HOW to mitigate carbon.
- E-Mobility (policy coherence) = carbon avoidance for end user and reaching targets related to the NDC's.
- Holistic understanding of economic greening, overall green jobs growth vs some losses; future skills orientation – digital skills, carbon skills, labour productivity.

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THANK YOU FOR YOUR ATTENTION!