

EASTERN CAPE SUSTAINABLE ENERGY STRATEGY

June 2012

Provincial RE and EE Forum



Leadership • Integrity • Flexibility • Teamwork

Introduction and background

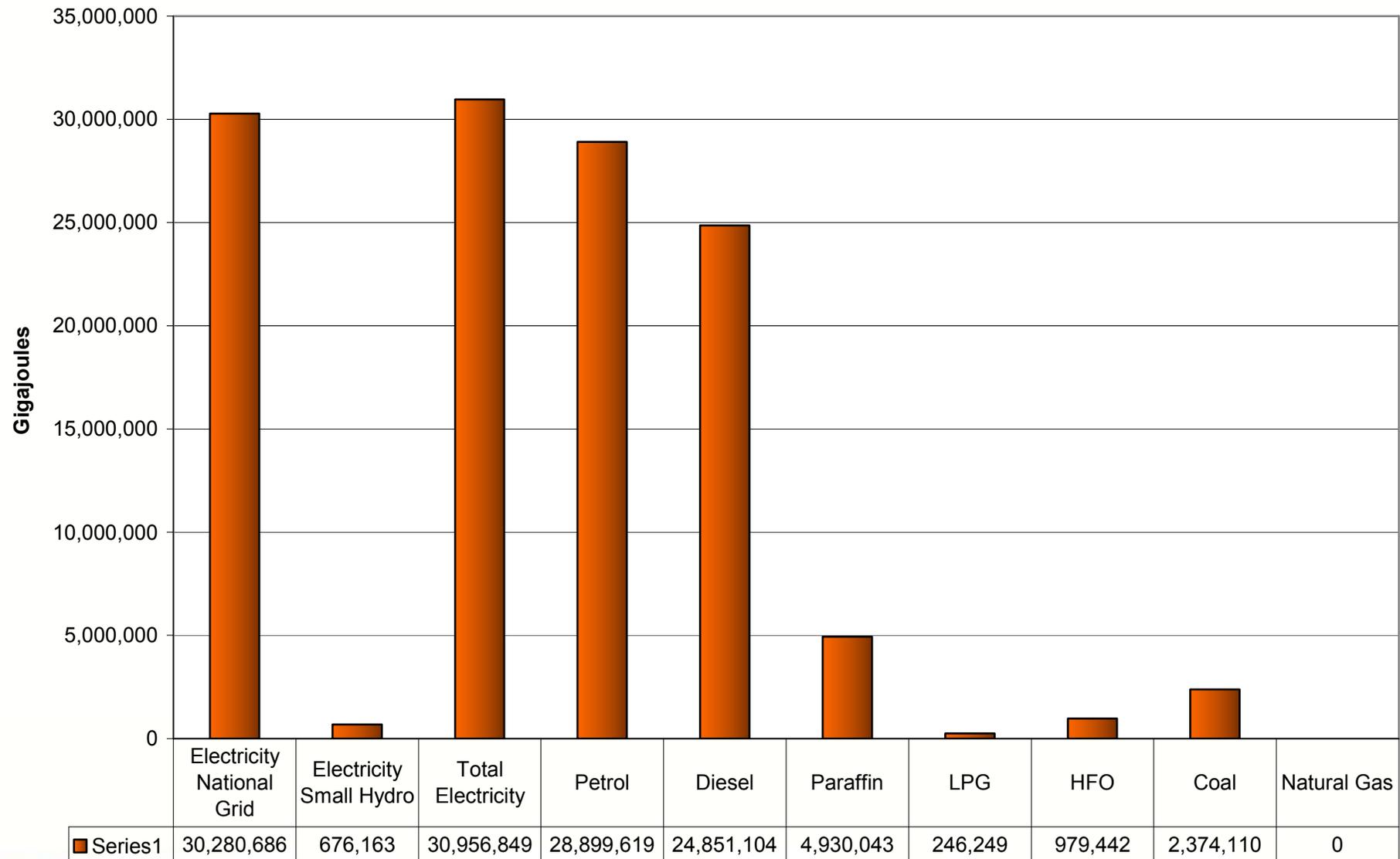
- The Eastern Cape Provincial Executive Committee (EXCO) mandated the DEDEA to host a Provincial Energy Summit (PES) in 2008.
- A key resolution of the summit was that DEDEAT will deal with the longer term energy issues including the development of the Provincial Energy Strategy.
- Strategy requirements:
 - Key pillars to include: alternative sources of energy; incentives for using alternatives; energy efficiency mechanisms and the Eastern Cape Energy profile;
 - Identify key economic opportunities in the sector that the SMME and Cooperatives could take advantage of.
 - Sustainable Energy should be added as the key priority sector in the PIDS
 - Establish the Provincial Sustainable Energy Agency to serve as a 1 stop shop



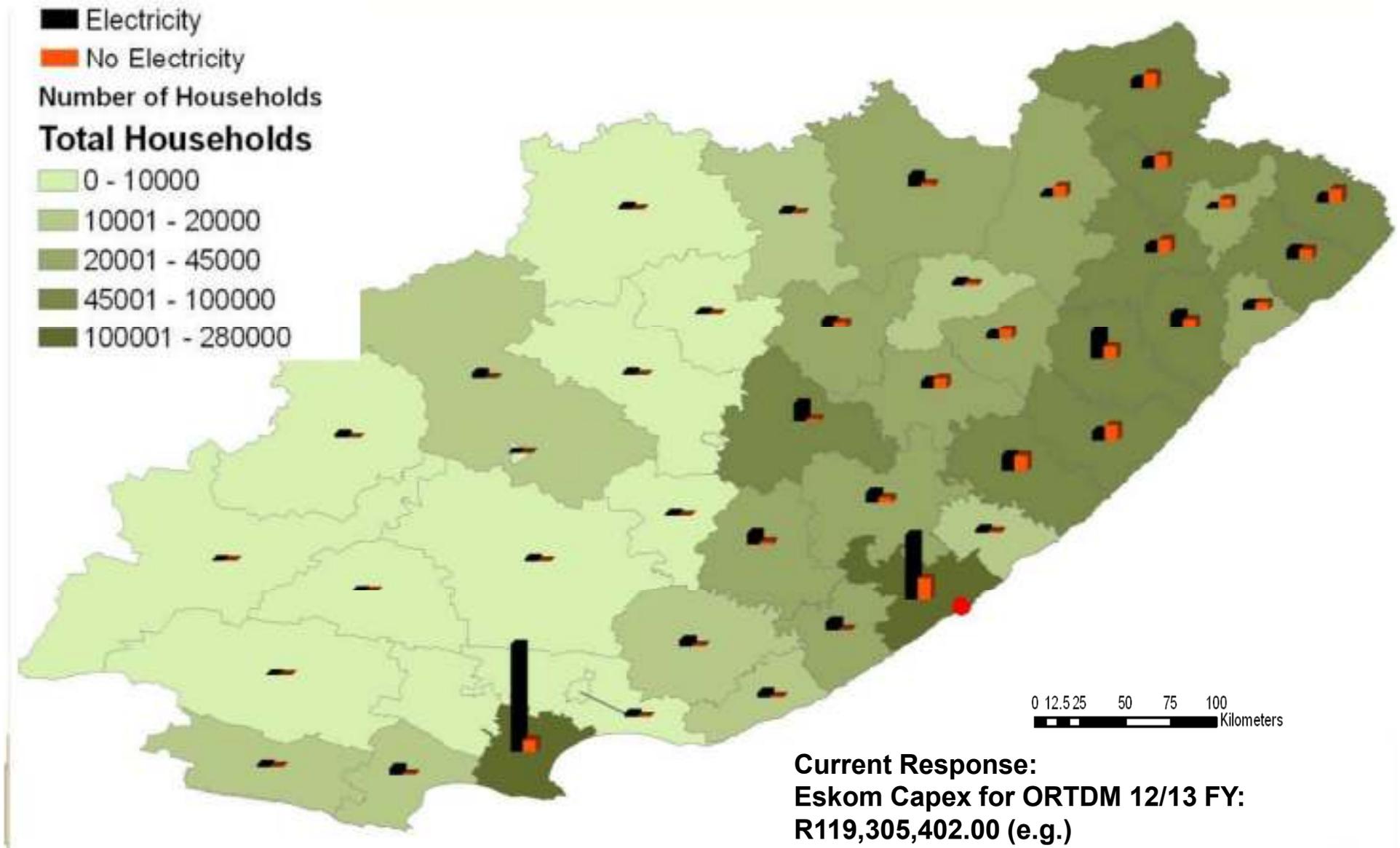
CURRENT PROVINCIAL ENERGY STATUS

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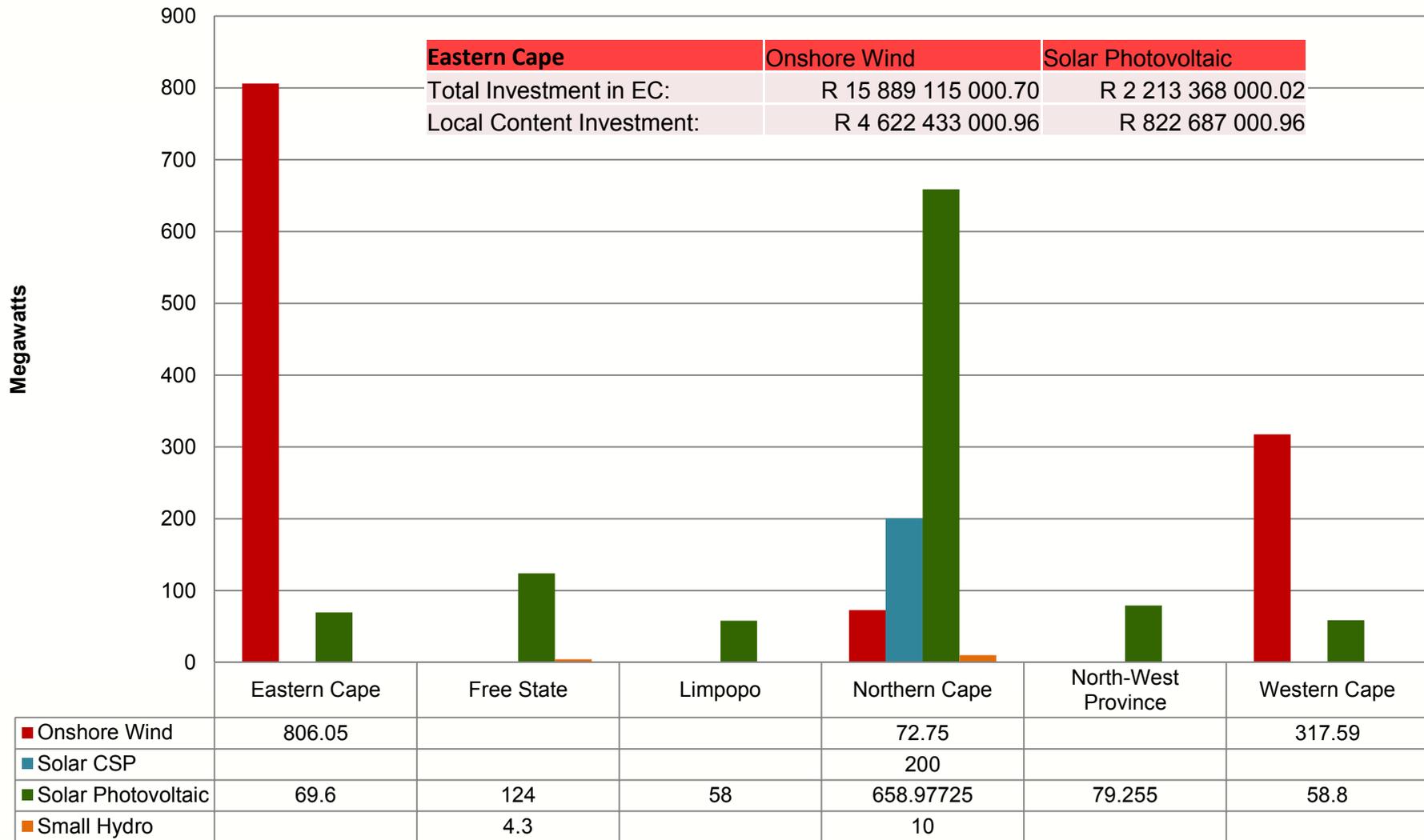
Provincial Energy Supply by Energy Carrier



Context: Household Energy in EC



Preferred bidders in Provinces: Round 1 and 2 (May 2012)





STRATEGY DETAIL:

Leadership • Integrity • Flexibility • Teamwork

The Role of the Province in Sustainable Energy

- Provinces do not have a constitutional role or mandate for energy services, but office bearers can play key roles in various contexts:
 - Promoting economic development through sustainable energy investment;
 - Setting a conducive regulatory environment and creating awareness;
 - Supporting efficiency in energy project permission and authorisation processes;
 - Setting guidelines;
 - Supporting and coordinating identified provincial and local government initiatives;
 - Skills development;
 - Promoting innovation through research and development;
 - Promoting local participation in the renewable energy value chain, including local content manufacture;
 - Supporting lead and pilot projects; and
 - Setting energy efficiency targets for provincial facilities and assets.

STRATEGY VISION AND GOALS

VISION

The Eastern Cape provides the most enabling provincial environment for sustainable energy investment and implementation in the country

- **Job creation and skills development;**
- **Alleviate energy poverty;**
- **Reduce Greenhouse Gas emissions and environmental pollution;**
- **Improve industrial competitiveness;**
- **Promote renewable energy production in the Province; and**
- **Promote the development of a renewable energy manufacturing industry and technology development.**

Summary of Reports

- Report 1: Stumbling blocks to Renewable Energy Implementation
- Report 2: State of Energy in the Province
- Report 3: Energy Efficiency
- Report 4: Sustainable Economic Development
- Report 5: Integrated Strategy and Exec Summary

Report 1: Stumbling blocks to Renewable Energy Implementation

- Cost Competitiveness;
- Intermittency;
- Scale;
- Governance and Structure of the Electricity Industry;
- Environmental and Planning Approvals;
- Implementation Capacity; and
- Legal Framework.

Report 2: State of Energy in the Province

- Supply Options

- It is quite feasible that RE electricity generation in the Eastern Cape Province alone could exceed demand within the next 15 to 20 years.
- Compelling reasons exist for the establishment of a combined cycle gas turbine (CCGT) power station for the Eastern Cape.
- The use of grid-connect micro PV and wind generation should be encouraged as low-hanging fruit.
- 60 wind farms with a combined capacity of about 4 253MW have applied to Eskom for connection quotations in the Province; this is the most promising short- and medium-term source of locally generated energy for the Eastern Cape.

Report 2: State of Energy in the Province

- Rural Energy:
 - There are still vast sections of the deep rural areas in the Eastern Cape where households do not have access to electricity.
 - Economics may dictate that off-grid solutions are necessary. A solution could be renewable energy hubs for these areas.

Report 3: Energy Efficiency

- Although provinces do not have a direct role in terms of influencing and promoting energy efficiency to energy consumers, key roles the Province can fulfil in this regard are as follows:
 - Send a clear message, setting energy efficiency targets,
 - Develop efficient permission and planning processes for developers,
 - Promote clear planning guidelines,
 - Raise awareness of the benefits and role of EE in developments with all stakeholders,
 - Support local government in their enforcement of EE,
 - Develop lead projects,
 - Finally, as a user of energy, developer of infrastructure, lessee of facilities, etc., provincial government has a direct role to play in implementing energy efficiency within its own facilities, development projects, and other spheres of influence.

Report 4: RE and EE and Sustainable Economic Development

- The establishment of a Sustainable Energy industry in the Province presents new opportunities for economic development in terms of job creation, industrial development, SMMEs and Coops, and skills development. The challenge is to develop this potential to become economically sustainable in the long term.



Provincial Strategic Priorities

(phased and ranked)



Item	Required Outcome		Recommended Actions	Phase ³³			Remarks
				1	2	3	
				Priority			
28 Provide an enabling environment for municipalities to promote/ purchase co-generation and micro grid-connected RE generation 	with RE providers Target: <i>All municipalities must purchase at least 5% of their electricity from renewable sources by 2014 (Items 2 & 5)</i> This could be achieved either by sharing in the national mix as offered by the (to be established) ISMO or buying directly from a renewable energy IPP		2. Request NERSA/DOE to allow municipalities to purchase a portion of their power requirements from RE IPPs and increase tariffs to pay for it.	3			Proposal: Municipalities to purchase up to 10% of their energy requirements from renewable energy sources and an average local tariff increase of up to 3%, to make up for the higher cost of renewables. Additional tariff income and expenditure has to be clearly ring-fenced to <ul style="list-style-type: none"> • Ensure the income is reserved for RE purchases. • Forecast and update RE purchases as income increases.
			3. Undertake a study to investigate alternative funding models for the purchase of RE in municipalities.		4		For increasing the target of RE purchases.
			4. Request NERSA/DOE to exempt smaller generating facilities from requiring a generation licence.	4		Proposal: generation facilities with an annual output capacity below 5 GWh do not require a generation licence in the case of private generators for private clients and below 10 GWh for generation into municipal networks.	
			5. Assist municipalities to amend by-laws to allow embedded generation to be linked into the municipal grid.	5		All municipalities within the Eastern Cape Province must be required to include Section 39 (2) of the proposed draft By-Laws for Electricity Distribution in their respective electricity distribution by-laws immediately.	
			6. Undertake an assessment of skills requirement and set up capacity and awareness programs in municipalities.		3	Municipalities are in need of capacity assistance/support. Capacity and technical support is required for, among others, <ul style="list-style-type: none"> • Identification of projects • Planning of projects (including TOR) • Implementing • M&E • Engaging with investors/developers on an equal footing • Capacity to undertake due diligence on projects. • Access to finance • Assistance to understand and perform their roles in the regulatory chain. 	

Item	Required Outcome	Recommended Actions
<p style="text-align: center;">1</p> <p style="text-align: center;">Strategic assessment of the regulatory environment including Eastern Cape Provincial locational perspective on renewable energy</p>	<p style="text-align: center;">A.</p> <p style="text-align: center;">Map out the regulatory landscape</p> <p style="text-align: center;">B.</p> <p style="text-align: center;">Provide Provincial input into similar and related national processes; and</p> <p style="text-align: center;">Provide broad guidance to Eastern Cape decision makers regarding appropriate positions to take on various issues.</p>	<ul style="list-style-type: none"> • Map out the renewable energy regulatory landscape in order to clarify the jurisdiction and role of decision makers. Regulatory roadmaps to sustainable energy outcomes can thereafter be clearly defined and exercised. <hr/> <ul style="list-style-type: none"> • Develop an Eastern Cape Provincial Locational Perspective on Renewable Energy. This may include: <ul style="list-style-type: none"> • The adequacy of connection and grid capacity, and • Resource availability and sustainability, <ul style="list-style-type: none"> • Where the environmental impact is minimised • Where the economic impact is most needed. • In respect to impact, special attention may be paid to the impact on the tourism sector. • The study should link IRP 2010 to local provincial dynamics. • Infrastructure, resources and environmental capacity linkages to be mapped out for coordination purposes Linkages between provincial and national dynamics to be strengthened.

Item	Required Outcome	Recommended Actions
<p>2A</p> <p>Provide an enabling environment for municipalities to purchase renewable energy from IPPs.</p> <p>2B</p> <p>Provide an enabling environment for municipalities to promote/ purchase co-generation and micro grid-connected RE generation</p> <p>(Collaboration required with DLG&TA)</p>	<p>To provide the necessary legislative changes, tools and skills development and all consultative processes for municipalities to enter into power purchase agreements with RE providers</p> <p>Target:</p> <p>All municipalities must purchase at least 5% of their electricity from renewable sources by 2014 (Items 2 & 5)</p> <p>This could be achieved either by sharing in the national mix as offered by the (to be established) ISMO or buying directly from a renewable energy IP</p>	<ul style="list-style-type: none"> <li>• Request clarifications, regulations or amendments to the MFMA from the Minister of Finance to: <ul style="list-style-type: none"> <li>• stipulate that Section 33 of the MFMA does not apply to the buying of renewable energy, and <li>• rule that electricity generated from renewable energy is not considered conventional generation in terms of the MFMA. <li>• Request NERSA/DOE to allow municipalities to purchase a portion of their power requirements from RE IPPs <li>• Undertake a study to investigate funding models for the purchase of RE in municipalities. <li>• Request NERSA/DOE to exempt smaller generating facilities from requiring a generation license. <li>• Assist municipalities to amend by-laws to allow embedded generation to be linked into the municipal grid. <li>• Undertake an assessment of skills requirement and set up capacity and awareness programs in municipalities. <li>• Actively develop the RE supply side and engage with potential independent power producers, financial institutions and investors. <li>• Promote micro and co-generation programmes and projects. <li>• Research the possibilities and opportunities for power generation from sewage works and landfill sites to assist municipalities. <li>• Promote preferential criteria for local (Eastern Cape) renewable energy procurement and include in the municipal procurement policy for the adjudication of RE bids, a formula that gives preference to local participation and technology provision

Item	Required Outcome	Recommended Actions
<p style="text-align: center;">3</p> <p style="text-align: center;">Provide an enabling environment for the attraction and establishment of RE generation facilities in the province</p>	<p>To attract the lion's share of national renewable energy independent power producers to the Province</p>	<ul style="list-style-type: none"> • Embark on an intensive training programme with respect to renewable energy project approvals for relevant provincial departments and all municipalities in the Province. • Establish a "one-stop-shop" facility to assist prospective developers of RE generation facilities to find and establish projects. • Establish a quarterly sustainable energy forum for interaction among manufacturers, project developers, investors, regulatory authorities and government officials, and skills institutions, with the objective of unlocking obstacles to and leveraging opportunities in sustainable energy development in the Province. • Link the Provincial Sustainable Energy Forum to existing district municipal structures/forums in order to ensure district level relevance and participation. • Promote a study and pilot project for the generation of energy from the ocean. • Promote the establishment of a combined cycle gas turbine generation facility in the Province. • CSP should be encouraged in the north-west of the Province. • Lobby Eskom to expedite strengthening the transmission capacity in the Transkei area.

Item	Required Outcome	Recommended Actions
<p style="text-align: center;">4</p> <p style="text-align: center;">Provide assistance to municipalities to promote and enforce energy efficiency for electricity users, including users in the manufacturing sector.</p> <p style="text-align: center;">(Collaboration required with DLG&TA)</p>	<p>Improve the efficiency of energy use and the carbon footprint of the Province.</p> <p style="text-align: center;">Target: Provincial electricity savings target of 2 percentage points above the national target by 2015</p>	<ul style="list-style-type: none"> • Develop guidelines on specific measures for local government to promote and enforce energy efficiency. Render assistance to and build capacity within smaller municipalities that do not have expertise in electricity or in energy efficiency. The Province should channel national and international assistance to the manufacturing sector in respect to energy efficiency. • Update original proposals in the strategy for municipalities to enforce energy efficiency to bring it into line with the updated national building and energy efficiency codes. • Update original user guidelines in the strategy for energy efficiency to bring it in line with the updated national building and energy efficiency codes.

Item	Required Outcome	Recommended Actions
<p style="text-align: center;">5</p> <p style="text-align: center;">Provide an enabling environment for the for the establishment of a manufacturing industry in support of RE production in the Province</p>	<p style="text-align: center;">Stimulate job creation, technology and economic development in the manufacturing industry.</p>	<ul style="list-style-type: none"> • Establish a forum where IPPs and the manufacturing industry can be brought together (See Action Plan 3.3 above). • Perform a skills requirement audit amongst IPPs and refer to skills forum (7.2) to develop training programs. • Establish and maintain a database of available skills, manufacturing capabilities and training opportunities within the Province. • Facilitate discussions between successful RE IPPs to find synergies, reduce costs through common manufacturing, bring them into contact with IDZs and manufacturers and otherwise assist with supply. • Investigate and promote the introduction of incentives such as special tariffs rate rebates and preferential procurement for local manufacturers and service providers in the sustainable energy value chain. • Lobby DoE to set out a long-term program for the procurement of RE generation.

Item	Required Outcome	Recommended Actions
<p>6</p> <p>Improve the provincial government's use of Energy</p> <p>(Collaboration required with DR&PW)</p>	<p>Improve the efficiency of energy use and the carbon footprint of the Province.</p> <p>Target 1:</p> <p>Provincial electricity savings target of 10% in the energy use of Province's buildings and other facilities by 2015</p> <p>Target 2:</p> <p>Reduce the Province's overall fuel consumption by 10% by 2015 by improving logistics and the use of more fuel efficient vehicles</p> <p>Target 3:</p> <p>All new provincial buildings to be designed according to the Green Building Council Manual to achieve at least a four star rating</p> <p>Target 4:</p> <p>All provincial facilities must purchase at least 10% of their energy requirements from renewable resources by 2014</p>	<ul style="list-style-type: none"> <li>• Include the requirement to design office buildings to GBSA standards in Province's building and architectural guidelines and specifications. <li>• Include references to energy efficiency guidelines in the Province's building and architectural guidelines and specifications (see Action Plan 4.3). <li>• Actively develop the supply side, engage with potential IPPs, financial institutions and investors to supply RE to achieve target 4. <li>• Apply a preference formula in the Province's facilities rental procurement policy to include a total of 15 points for energy efficiency (with all other considerations making up the balance of 85 points): <li>• DEDEA is to start a programme of energy audits of provincial buildings and other facilities with the purpose of retrofitting for improved energy efficiency, including solar water heaters, efficient lighting, and other recommendations as per the energy efficiency report. <li>• Include references to energy efficiency guidelines in the Province's building and architectural guidelines and specifications (see Action Plan 4.3). <li>• Actively develop the supply side, engage with potential IPPs, financial institutions and investors to supply RE to achieve target 4. <li>• Apply a preference formula in the Province's facilities rental procurement policy to favour energy efficiency <li>• DEDEA is to start a programme of energy audits of provincial buildings and other facilities with the purpose of retrofitting for improved energy efficiency, including solar water heaters, efficient lighting, and other recommendations as per the energy efficiency report.

Item	Required Outcome	Recommended Actions
<p style="text-align: center;">7</p> <p>Skills development</p> <p>(Collaboration with OTP)</p>	<p>Develop the necessary skills within the Province to meet the challenges of the future energy industry</p>	<ul style="list-style-type: none"> • Engage with the provincial skills strategy to deal with the skills challenges identified in this Strategy's action plan and industry in general. • Investigate and develop a clear route of how local skills will be developed across the value chain of RE technologies, from manufacturing, to construction, operation and maintenance, with a focus on the development of local innovations/inventions. • Together with the Provincial Skills Development Forum (Office of the Premier), establish a provincial Green Skills Forum to deal with the issues identified in this Strategy and any issues identified in a future skills strategy.

Item	Required Outcome	Recommended Actions
<p style="text-align: center;">8</p> <p>Innovation and research and development</p>	<p>Focus available budgets for R&D on the appropriate areas of study for the Province</p>	<ul style="list-style-type: none"> Develop a R&D/Innovation plan that identifies areas of research that would benefit the development of a sustainable energy industry for the Province.

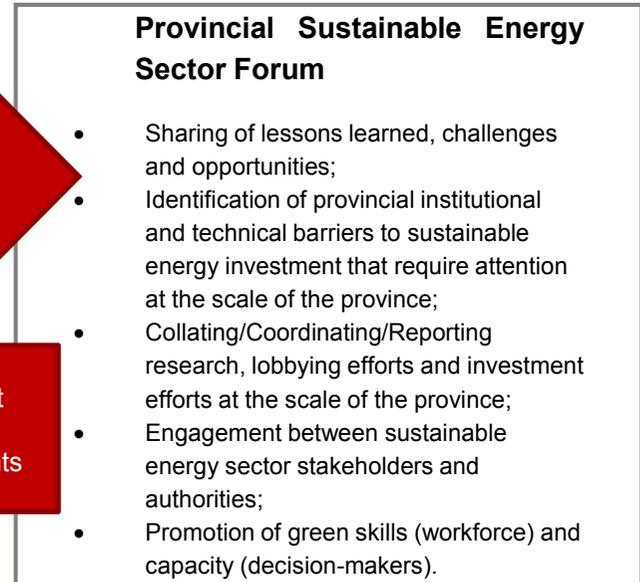
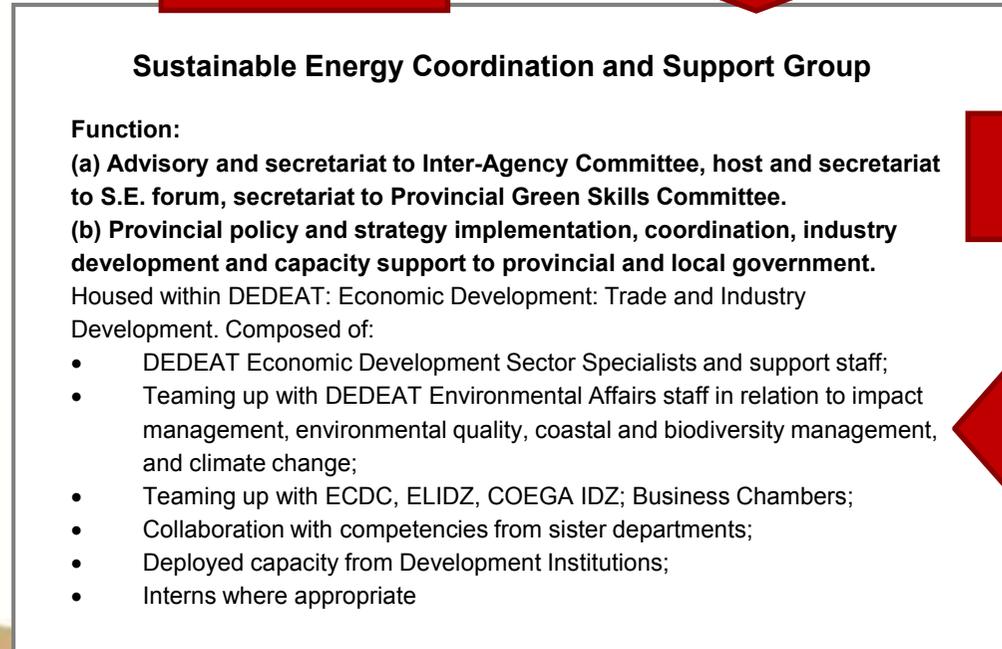
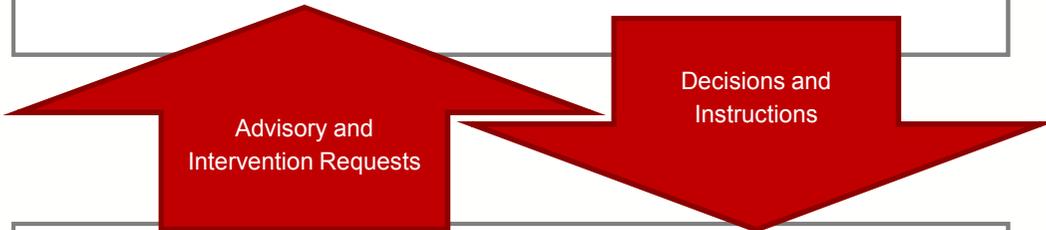


Item	Required Outcome	Recommended Actions
<p style="text-align: center;">9</p> <p style="text-align: center;">Universal access to energy</p>	<p style="text-align: center;">Alleviate energy poverty in remote rural areas with the establishment of RE energy hubs</p>	<ul style="list-style-type: none"> • Promote the investigation and establishment of mechanisms to provide sustainable off-grid RE hubs. • Support a study to develop the concept of rural renewable energy/local economic hubs. • Support a feasibility study and business plan for one such hub as a pilot project.

Item	Required Outcome	Recommended Actions
<p>10.</p> <p>Promote the bio-fuels industry</p> <p>(In Collaboration with DRDAR)</p>	<p>Stimulate job creation, technology and economic development in the farming and bio-fuels manufacturing industries.</p>	<ul style="list-style-type: none"> <li>• DEDEAT, together with the agro-processing entities within ECDC, ELIDZ and Coega IDZ, should promote the establishment of bio-fuel and bio-fuel by-product processing facilities in the Eastern Cape. <li>• Further studies are required in regard to feedstock production. Issues such as access to land, land-lease agreements, appropriate production systems on communally owned/state owned land, funding mechanisms, food security, job creation, water usage, farming practices, soil conditioning and fertilizer usage should be investigated further (Lead taken by DRDAR).

Provincial Sustainable Energy Support Structure

- Focus Area 1: Support sustainable economic development through the promotion of renewable energy generation (both via National Renewable Energy Independent Power Producer Programme (REIPPP) and at the municipal level) and the establishment of a sustainable energy manufacturing and service industry,
- Focus Area 2: Assist the Province and Municipalities to promote and implement energy-efficiency measures, and
- Focus Area 3: Promote the roll-out of non-grid energy options in rural areas that currently do not have access to electricity
- Play a provincial coordinating role, including among others cataloguing all provincial initiatives to provide annual status report and coordination point of departure.



THANK YOU