



Greening And Resource Efficiency in Tourism

Energy Efficiency Demand Side Management

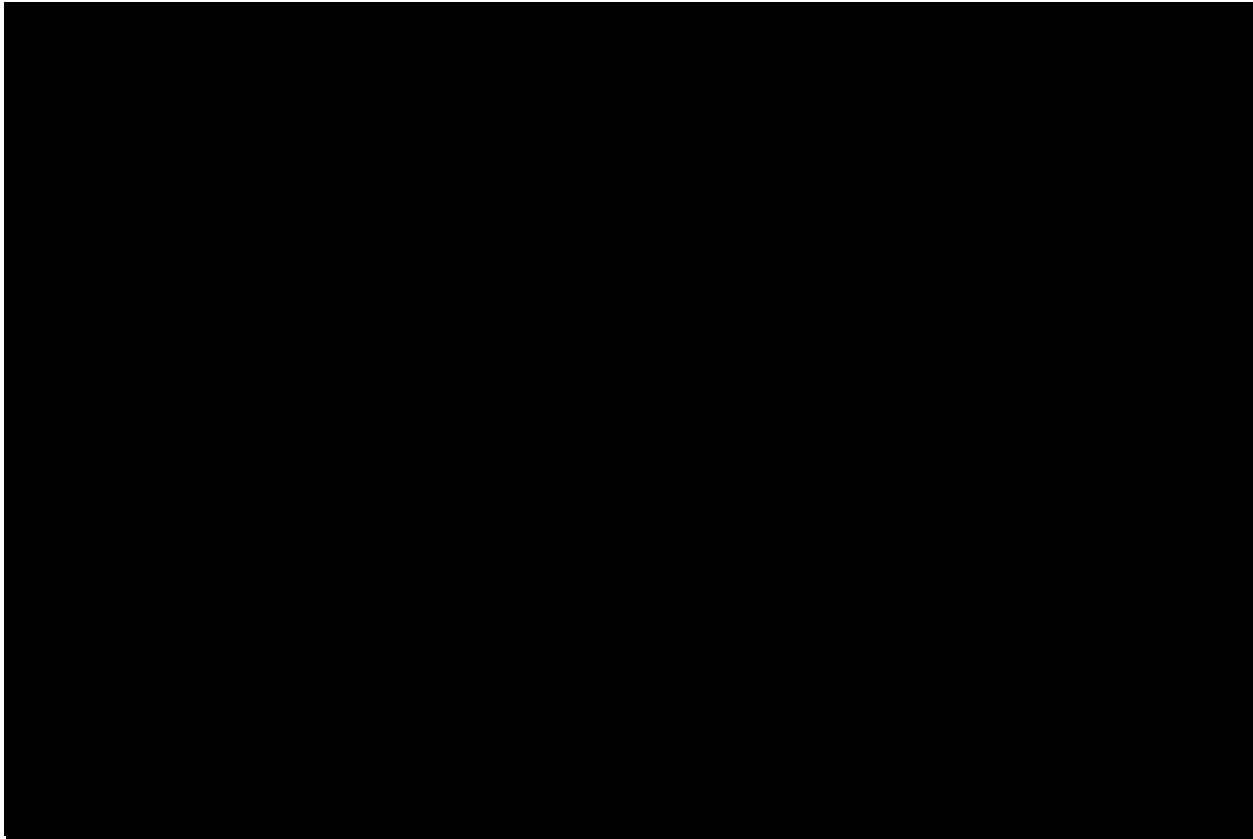
Presentation: DSM Funding Models

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- Problem Statement
- Defining the Problem
- The Case for Energy Efficiency
- DSM Programmes Comparison
- The ESCO Process
- The Standard Offer
- Standard Product
- Energy Audit

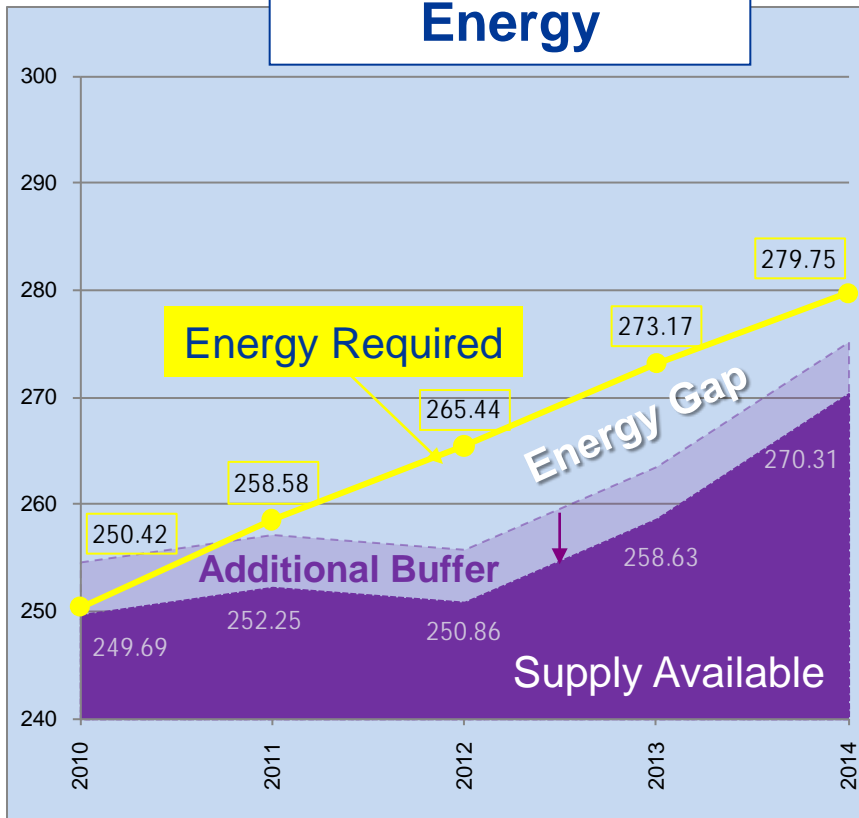


- “Due to the diminishing gap between electricity supply and demand, the light at the end of the tunnel will also have to be turned off...”

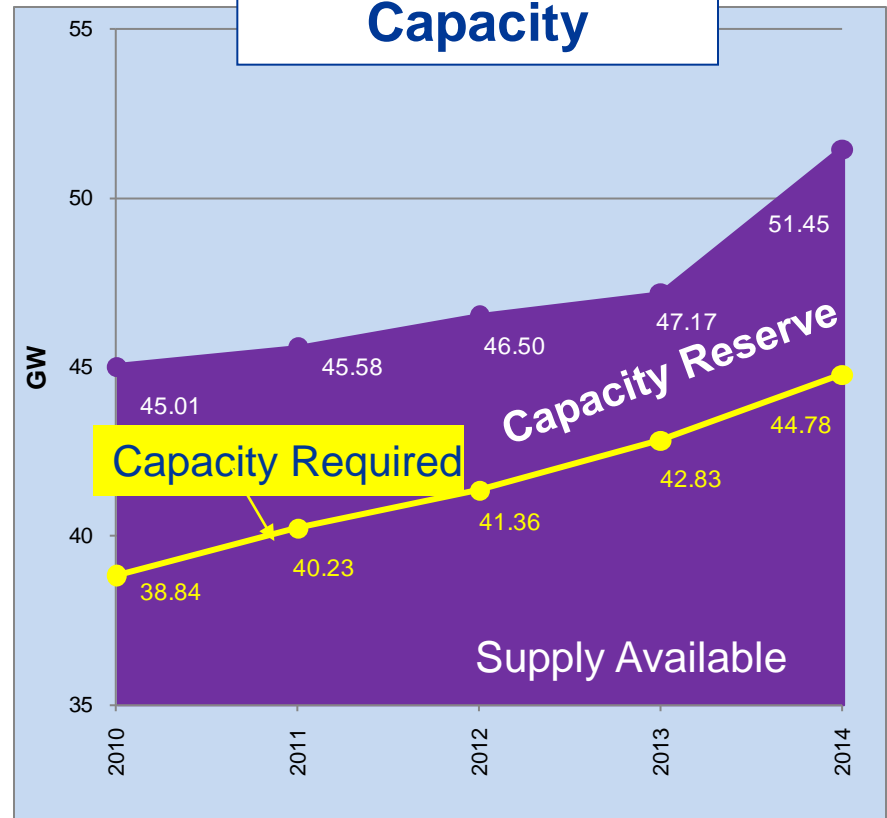
Defining the Problem

Nature of the problem: Energy vs. Demand

Energy



Capacity



	2010	2011	2012	2013	2014
Gap	-1.7%	0.5%	3.6%	3.5%	1.6%
+Buffer	0.3%	2.4%	5.5%	5.3%	3.4%

Initial
Gap
(Reserve)

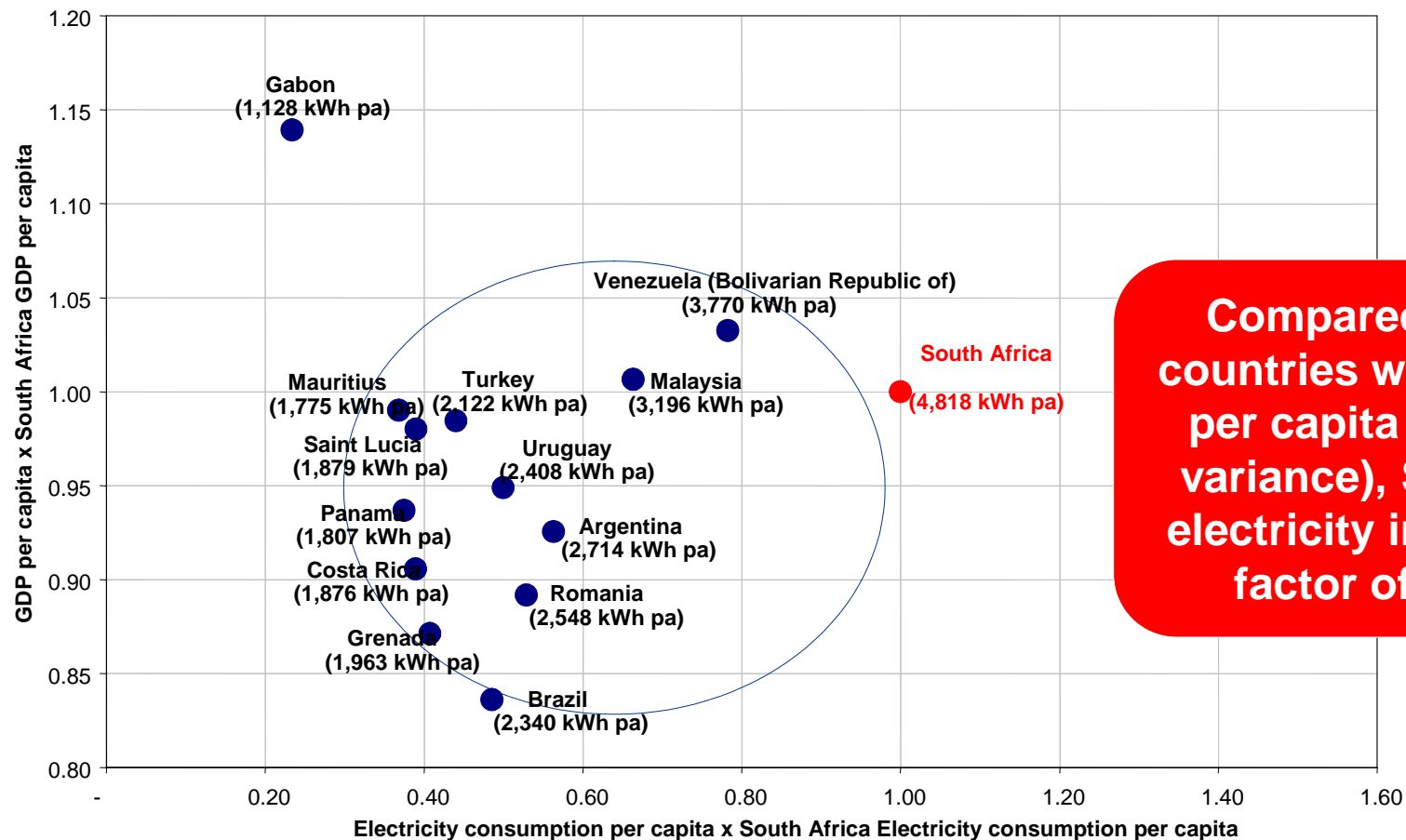
2010	2011	2012	2013	2014
15.9%	13.3%	12.4%	10.1%	14.9%

Energy Availability rather than Capacity is the challenge!

The Case for Energy Efficiency

South Africa vs. the Rest of the World

Per Capita Electricity Consumption for Countries with similar GDP per capita ($\pm 20\%$) relative to South Africa*



Compared to other countries with a similar per capita GDP (15% variance), SA is more electricity intensive by factor of 35-65%

Source: UN (United Nations). 2007d. The 2004 Energy Statistics Yearbook. Department of Economic and Social Affairs, Statistics Division. New York.

*Situation as in 2004, beneficiation policy and co-generation will alter the above picture

DSM Funding Mechanisms (Programme Comparison)



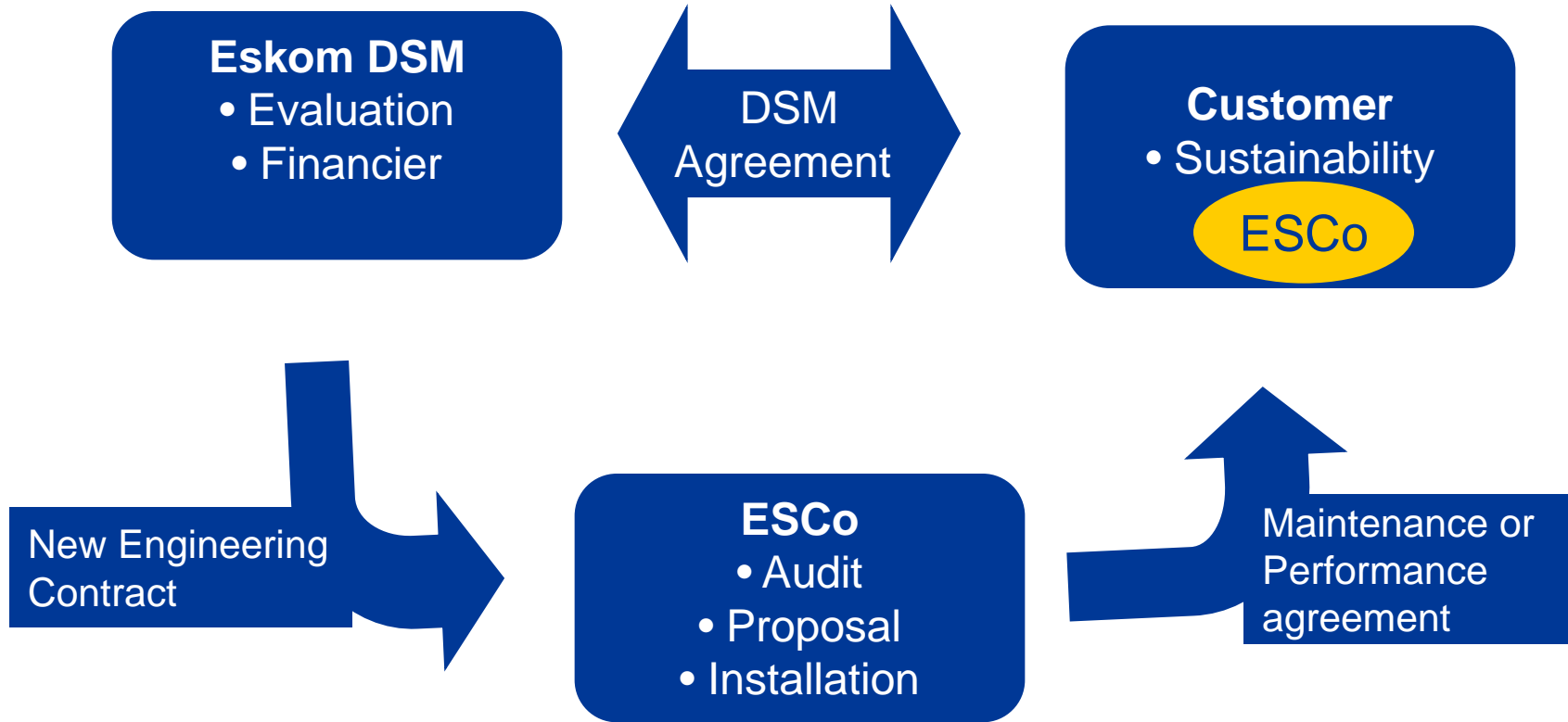
	ESCO Process	Standard Offer	Standard Product	Mass Roll-Out	Performance Contracting
Size	>1MW	50kW-5MW	<100kW	n/a	>30GWh for 3 years
Type of Saving	Mostly Load Reduction (MW) focused on evening peak	Energy (kWh) savings focused on day time peak	Energy (kWh) savings 24/7	Various	Energy (kWh) savings 24/7
Payment Value	Based on individual project calculation (<NERSA benchmark)	Standard rate per kWh per technology	Standard value per rebated item (<75%NERSA benchmark)	In line with MYPD benchmarks, with discretion	Multiple fixed rates: <ul style="list-style-type: none"> • 55c/kWh: 06AM-10PM week • 10c/kWh: 10PM-06AM week and all hrs weekend
Payment Timing	Implementation progress payments to ESCO's	70% on implementation, 10% pa thereafter based on M&V	100% on installation based on deemed savings	Implementation progress payments	Payments based on energy saved as per M&V certificates

New funding mechanisms are available to simplify and accelerate energy savings



IDM Funding Models

The ESCO Process





IDM Funding Models

The Standard Offer

Standard Offer Programme

- q Performance based program with specific M&V and Contracting requirements.
- q Objective – R250m for >50 MW savings
- q Qualifying projects – savings between 50 kW and 5000 kW using approved technologies at various sites.
- q The rate / kWh for energy savings will be fixed per technology group
- q Single standard offer contracts be concluded with compliant Project Developers for a maximum contract period of 36 months after date of signature of the party last signing, provided that no new contracts will be entered into after 31 March 2013.

- q Technologies to be considered but not limited to:
 - q Energy Efficient Lighting Systems
 - q Building Management Systems
 - q Electric Hot Water Systems
 - q Process optimisation
 - q Ind&Com Solar Hot Water Pilot
 - q Renewables (subject to NERSA approval)

Technology groups and new Incentive Rates (Only qualifies if it can be M&Ved !!!)

Target Technologies	Rebate c/kwh
<i>Energy Efficient Lighting Systems</i>	42
Lighting and Associated Systems	42
Efficient Lighting in Poultry & Green houses	42
Advanced Lighting Technologies	42
<i>Building Management Systems</i>	42
Sensors and Controls	42
HVAC Systems	42
<i>Electrical Hot Water Systems</i>	42
Heatpumps	42
Induction Heating	42
Showerheads and Temperature Control	42
<i>Process optimisation</i>	42
Compressed Air Systems / Hydraulics	42
Process Heating	42
Refrigeration and Cooling	42
Waste Heat Recovery (Incl Micro Turbines)	42
Electric Boilers and Steam Systems	42
Drying Technologies	42
Material Handling systems -Pumps and Conveyors	42
Pumps	42
Ventilation Fans	42
Energy Efficient Motor Systems	42
Advanced Motor Technologies (VSDs etc)	42
Thermal Insulation (cooling & Heating)	42
Agriculture Irrigation Systems	42
<i>Ind & Com Solar Hot Water Systems</i>	70



IDM Funding Models

Standard Product

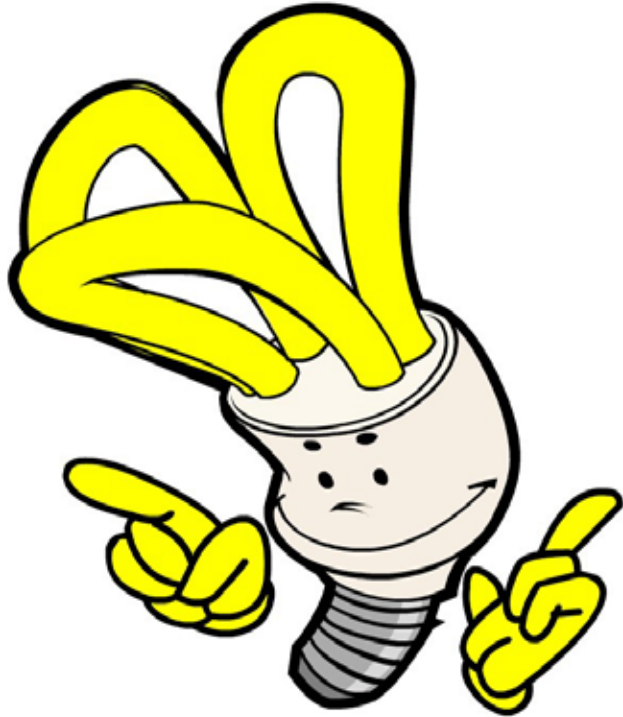
- q Designed for small commercial/agriculture/industrial customers
- q Energy Efficiency savings of 1 kW (min 2 MWh) to 100kW and Load factor > 15%
- q Objective - R150 million and realised savings of >30 MWs.
- q IDM and Regional Energy Services related staff empowered to rebate payments to customers and Energy Services Companies (ESCOs)
- q Rebates will be based on standard technologies, savings, load factors and benchmarks.
- q Available until at least 31 March 2013 or when allocated budget allocated
- q Rebates only paid to Customer/Owner of property or business
- q Available to all electricity users linked to grid

An Energy Audit (Simplified)



Efficiency Compliance Summary	Please answer the following: Y = Yes, N = No, NA = Not Applicable, P = Partially				
	Y	N	P	NA	Remarks
1. Lighting					
2. HVAC					
3. Water Heating					
4. High Efficiency Motors					
5. Steam Generation					
6. Compressed Air					
7. Cooking & Food Preparation					
8. Process Efficiency					
9. Buildings					
10. Lifts & Escalators					
11. Electrical Infrastructure					
12. Electrical Appliances					
13. Renewable Energy					
14. Cogeneration					

Thank You



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**“The cheapest kWh is
the one that you don’t use!”**

Dr Perry Sioshansi
California