

CITY OF CAPE TOWN ENERGY AND CLIMATE CHANGE ACTION PLAN May 2010

PROJECT AND BUDGET INFORMATION

ADDENDUM A

KEY	High priority projects	Medium priority projects	Low / other projects									Patterned cells in Budget section indicate projects that do not require additional funding - i.e.are being done inhouse.	CI = Carbon Income	BR = Budget Reduction	Actual' = funds secured / loaded	Potential' = funds applied for / promised, but not yet loaded										
OBJECTIVE 1. CITY-WIDE: 10% REDUCTION IN ELECTRICITY CONSUMPTION ON UNCONSTRAINED GROWTH BY 2012 (3.3%/annum 2010-2012) (see Objective 2: All growth to be in renewable energy supply, & Objective 8: Awareness)																										
PROGRAMME & PROJECT INFO / STATUS													BUDGET													
Prog ID	Programme	Proj ID	Project	Funding Source	Department(s) Responsible (lead Dept listed first)	Person(s) Responsible	Existing Project	WBS Element	Start Date	End Date	Targets / Quantity	Carbon Income Budget Reductn	Comments	2009_10				2010_11				2011_12				
														Internal CCT (Rands)		External (Rands)		Internal CCT (Rands)		External (Rands)		Internal CCT (Rands)		External (Rands)		
														Actual	Potential	Actual	Potential	Actual	Potential	Actual	Potential	Actual	Potential	Actual	Potential	
1.1	Electricity consumption reduction : mandatory	1.1.1	Power Conservation Programme rollout (driven by National Legislation)	OPEX-tariff funded	Electricity	Gary Ross	Yes		2010	Unknown	10% Reduction by?		The mandatory targets of the PCP and the City's own targets have significant implications for the City's reliance on income from the sale of electricity.	675 000				712 800				675 000				
1.2	Solar Water Heating	1.2.1a	Mass roll out of solar water heaters, mid to high income- Request for Proposals	REEEP (SEA)	ERM / Electricity	Wouter Roggen	Yes		2010 April			CI	With the assistance of SEA			50 000										
		1.2.1b	Mass roll out of solar water heaters - implementation	Private funding	ERM / Electricity	Wouter Roggen	As above	N/A	Mid 2010	2014	300 000 SWHs															
		1.2.2	EE Water Heating Bylaw	CCT	ERM / PBDM	Wouter Roggen / Peter Henshall-Howard	Yes		2005	Unknown	All new buildings		Process is currently with PBDM - anticipated that Public Participation process will commence early in 2010	100 000												
1.3	Metering	1.3.1	Internet based metering - large customers / AMI / ERP	RCC: Electricity	Electricity	Cornie Malan	Yes		2009		No info		Changes to SAP to accommodate remote and advanced meter reading- not purely for EE	2 000 000				5 000 000								
		1.3.2	Ripple control - pilot (Utility load management - ULM)	Eskom	Electricity	Peter Jaeger	TBC	N/A	Aug 2010	Nov 2010	2000 Houses for the pilot		Eskom project, not sure if it will go ahead				40 000 000									
		1.3.3	Smart metering	Eskom / DoRA?	Electricity	Ryno van der Riet	TBC					Eskom - DoRA funds? RFP to be issued by City, after which strategy including budget will be determined. Potentially "hundreds of millions", perhaps R60m per year.							60 000 000				60 000 000			
		1.3.4	Capital Meter Replacement / AMR	RCC: Electricity	Electricity	Ryno van der Riet	Yes					Project exists. Not purely EE	2 000 000				3 000 000				1 000 000					
1.4	Limited electricity supply to new developments	1.4.1	Preparation of criteria for new development in the City and urban edge (also PCP requirement)	CCT	Electricity / Planning	Les Rencontre / Cheryl Walters	TBC		2010	2010			Process to develop criteria for electricity supply to new developments - partnership with Eskom													
1.5	Green Building	1.5.1	Green Building Bylaw / Sust. Dev. requirements RFQ	CCT/Danida	PDBM / ERM / Legal	Cheryl Walters / Sarah Ward / Quintus Thom	TBC	G09.00050	2010	2010			Based on the City's GB Guidelines and GBCSA's rating tools.	115 000												
1.6	Reduction in electricity theft			CCT	Electricity	Les Rencontre	Yes		Ongoing				Reduction in electricity theft by business and residential customers													
Total Annual Budget Actual (A)													4 890 000		50 000		8 712 800		0		1 675 000		0			
Total Annual Budget Potential (P)														0		40 000 000		0		60 000 000		0		60 000 000		
Total Annual Budget (A+P)													44 940 000				68 712 800				61 675 000					

OBJECTIVE 2. 10% RENEWABLE AND CLEANER ENERGY SUPPLY BY 2020; ALL GROWTH IN ELECTRICITY DEMAND TO BE MET BY CLEANER / RENEWABLE SUPPLY																									
PROGRAMME & PROJECT INFO / STATUS														BUDGET											
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														Internal CCT (Rands)		External (Rands)		Internal CCT (Rands)		External (Rands)		Internal CCT (Rands)		External (Rands)	
														Actual	Potential	Actual	Potential	Actual	Potential	Actual	Potential	Actual	Potential	Actual	Potential
2.1	Renewable Energy large scale supply	2.1.1	Darling Power Purchase Agreement and sale of Green Electricity Certificates	CCT	Electricity	Brian Jones	Yes		2000	2008	10GWh per annum		No cost to City- buy and sell Green electricity at cost.												
		2.1.2	Power Purchase Agreements with Independent Power Producers	REFIT? CCT?	Electricity	Brian Jones	Yes		Ongoing					Currently anticipating REFIT single buyer issue to be resolved, ongoing engagement with IPPs. Providing input to debate from City perspective where required. See 2.1.3											
		2.1.3	REFIT for cities	SEA	ERM / Electricity	Brian Jones / Sarah Ward	Yes		2010				Jointly with other cities take up REFIT implementation issues with National Government			20 000									
		2.1.4	Combined cycle generation from natural gas sources (eg. Kudu/Ibubhezi)	CCT	Electricity	Les Rencontre	TBC						City has, as Camala, in the past been involved in investigating the Kudu natural gas supply possibilities to CCT												
2.2	Electricity generation from municipal operations	2.2.1	Anaerobic digestion phase1 - methane yield assessment	CCT	Solid Waste	Melumzi Nontangana		no info	Dec 09	Apr 2010		CI/BR	Disposal department is exploring the use of dry or wet fermentation as an alternative waste disposal technique for general dry domestic waste and hazardous wet waste. Expected product are compost, methane rich biogas (source of green energy), GHG reduction	200 000											
		2.2.2	Anaerobic digestion phase2 - Conceptual design of dry fermenter and associated economics	Private funding	Solid Waste	Melumzi Nontangana	Yes	N/A	Mar 2010	May 2010		CI?	This design phase forms part of completion of Chem Eng degree, CCT staff member M. Nontanga			10 000									
		2.2.3	Anaerobic digestion phase 3 - Pilot dry fermentation & aerobic composting	SANERI	Solid Waste	Melumzi Nontangana	Yes		No info			CI?	UCT or City of Cape Town based project. Finalizing project terms of reference and costing by end March.			400 000									
		2.2.4	Anaerobic digestion - Pilot wet fermentation	SANERI	Solid Waste	Melumzi Nontangana	Yes	N/A	No info			CI?	UCT-based project			100 000									
		2.2.5	Waste oil collection for biodiesel production assessment (R&D)	SANERI	Solid Waste	Melumzi Nontangana	Yes	N/A	No info			CI?	Subject to MoU signed btw City and SANERI												
		2.2.6	Refuse Derived Fuel (RDF) & gasification study	External	Solid Waste	Melumzi Nontangana	Yes		March 2010	March 2011		CI?	Electricity generation from refuse derived fuel feasibility study,Refuse Derived fuel will produced from municipal solid waste sourced from Cape Town. Currently finalizing and signing MoU.				8 000 000								
		2.2.7	Cleaner production assessment	NCPC	Solid Waste	Melumzi Nontangana	Yes		No info			CI?	Underway, already conducting industrial waste minisation at various industries, e.g. Roelcor abattoir, Pioneer Foods, Oceana Fisheries - no budget info received												
		2.2.8	Landfill gas project - CEF partnership negotiations	CCT / CEF	Solid Waste / Legal / Finance	Peter Novella / Sue Mosdell / Johan Steyl	Yes		No info			CI	No budget information received as at 5/3/10												
		2.2.9	Funding towards advanced waste management programme	KFW	Solid Waste / Water & Sanitation / Electricity	Peter Novella/ Kevin Samson / Melumzi Ntongana / Brian Jones	Yes		No info			CI/BR	Council approved the report on 26 th November 2009 conditional to compliance with SCM policies. SCM , BAC and Solid Waste to take this forward.			200 000									
		2.2.10	Methane production from waste water sludge + organic solid waste	CCT - Opex	Waste Water branch: Solid Waste	Kevin Samson	No	Operating budget	Early 2010			CI?	First stage to appoint Env Assess Practitioner & Engineer to do EIA (8-12 months). Buy land and rezone, tender out for contractor. Appoint contractor for 15-20 yrs.					3 000 000							
		2.2.11	Micro-hydro on potable waterflows: Research & Development	RE Market Transformation Project	Water & Sanitation / ERM	Peter Flower / Wouter Roggen	Yes					CI	REMT pursuing funding on behalf of the City for research and development				2 000 000								
		2.2.12	Microhydro pilot - Green Point Park	Danida - Carbon Offset Grant	Green Goal 2010	Lorraine Gerrans	Yes	G10.00061	2010	2010	1 Water turbine		To be integrated with Green Point Park development			650 000									
2.3	Renewable energy supply at Eskom rates to City		Renewable Energy - Preparation of an RfP	CCT	Electricity	Brian Jones	Yes		2010	2010															
2.4	Renewable Energy small scale supply	2.4.1	Small wind turbines - commercial / industrial applications - development of technical specs for grid connection	CCT	Electricity	Brian Jones	Yes						Private projects- Should be at no cost to the City, subject to NERSA rulings, etc.												
		2.4.2	Micro-wind turbine building regulations / zoning	CCT	PBDM / ERM / Electricity	Peter Henshall-Howard / Sarah Ward / Brian Jones	Yes						Comparative report by Vera Mertens on regs elsewhere complete												
	Renewable Energy and Energy supply diversification Plan												New entry												
Total Annual Budget Actual (A)														200 000		1 380 000		0		3 000 000		0		0	
Total Annual Budget Potential (P)															0		10 000 000		0		0		0		0
Total Annual Budget (A+P)														11 580 000				3 000 000				0			

OBJECTIVE 3. COUNCIL OPERATIONS: 10% REDUCTION IN ENERGY CONSUMPTION ON UNCONSTRAINED GROWTH BY 2012 (3.3% / annum 2010-2012); all growth in demand to be met by renewable/cleaner energy supply																									
PROGRAMME & PROJECT INFO / STATUS														BUDGET											
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														Internal CCT (Rands)		External (Rands)		Internal CCT (Rands)		External (Rands)		Internal CCT (Rands)		External (Rands)	
														Actual	Potential	Actual	Potential	Actual	Potential	Actual	Potential	Actual	Potential	Actual	Potential
3.1	Buildings retrofit	3.1.1	3 Municipal buildings	Danida - UEMP	ERM / STS	Wouter Roggen / Gisela Kaiser	Yes	G09.00070-F1.A	2009	Dec 2010	3 Buildings	CI/BR	Programmatic CDM?			5 100 000									
		3.1.2	1 Municipal building	Danida - Carbon Offset Grant	ERM / STS	Wouter Roggen / Gisela Kaiser		G10.00058	2009	Dec 2010	1 Building	CI/BR	Forms part of the retrofit of municipal buildings under 3.1.1. - project underway			1 000 000									
		3.1.3	Additional lighting control Cape Town Stadium	Danida - Carbon Offset Grant	Green Goal 2010	Dave Hugo (Lorraine Gerrans)	Yes	G10.00062	2009	Dec 2009	1 Building	CI/BR	Project completed.												
		3.1.4 a	Civic retrofit - audit	CCT	ERM / STS	Wouter Roggen / Gisela Kaiser	Yes	N10.00973	2010	June 2010		CI/BR		300 000											
		3.1.4 b	Civic retrofit - implement	CCT	STS	Gisela Kaiser	Yes		2011	2012		CI?/BR	Programmatic CDM?					10 000 000			10 000 000				
		3.1.5	CCT Libraries retrofit	DoRA	Community Services / ERM	?	TBC		2010		All CCT Libraries	BR	Business Plans for EE DoRA funding being developed												
		3.1.6	CCT Clinics	DoRA	Health / ERM	Ivan Bromfield	TBC		2010		All CCT Clinics	BR	Business Plans for EE DoRA funding being developed												
3.2	Upgrade existing CCT rental stock (CRU) - Phase 1	3.2.1	Ceilings: • Install rhinoboard ceilings where none have been installed • Insulate all ceilings with thermal insulation	PGWC - Intergrated Housing & Human Settlement Development Grant	Housing	Zaahir Jassiem	Yes		2008	2008			Phase 1 of this Housing Dept project is to upgrade 7 700 of the 40 000 City owned rental units. The budget received from PGWC is an integrated budget (ie for the total project) and so cannot be divided to indicate the amounts for energy and climate change components.												
		3.2.2	Lights: • Change all element light bulbs to compact fluorescent bulbs • Replace high mast lighting with building-mounted flood lights																						
		3.2.3	Water heating: • Limit hot water cylinders to 100l capacity and set thermostat to 50°C • Educate users on calculating expected cost of water heating • Insulate new hot water pipe runs																						
		3.2.4	Water efficiency: • Install low-flow efficient shower heads • Replace existing cisterns with multiflush cisterns where viable • Replace bulk water meters with individual water management devices, preferably preset to 350l / day • Install permeable paving to reduce run-off • Tree planting using indigenous water-wise plants • Install double-sunken bubbler irrigation system for trees																						
		3.2.5	Thermal efficiency of house: • Service all windows and doors for draft minimisation																						
		3.2.6	Food Security: • Encourage development of food gardens (where evidence of interest from community)																						
		3.2.7	Environmental Health / Risk Reduction: • Provide dedicated, properly managed refuse collection / removal areas																						
3.3	Greening the City Procurement Policy	3.3.1	Development of the Greened SCM Policy	CCT	SCM / ERM	Leonard Schnaps / Jacques duToit	Yes		2008				Greened SCM Policy was submitted to the Director SCM in October 2009.												
		3.3.2	Development of the Greening Procedural document for the SCM Policy	CCT	SCM / ERM	Leonard Schnaps / Jacques duToit	Yes		2010				Greening Procedural document has been developed and submitted to the Director SCM in January 2010.												
3.4	Energy efficient technologies DoRA funding	3.4.1	Intervention projects still to be chosen and BPs developed, also see 3.6.2	DoRA	ERM / Electricity	Sarah Ward / Talu Tshivase	Yes		2010	2012		CI/BR	Municipalities need to provide business plans to access funds. Business plan to be developed by March'10; focus on most EE interventions for city wide.								20 000 000			20 000 000	

OBJECTIVE 3 (Cont...) COUNCIL OPERATIONS: 10% REDUCTION IN ENERGY CONSUMPTION ON UNCONSTRAINED GROWTH BY 2012 (3.3% / annum 2010-2012); ALL GROWTH IN DEMAND TO BE MET BY CLEANER / RENEWABLE SUPPLY																									
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														Internal CCT (Rands)		External (Rands)		Internal CCT (Rands)		External (Rands)		Internal CCT (Rands)		External (Rands)	
														Actual	Potential	Actual	Potential	Actual	Potential	Actual	Potential	Actual	Potential	Actual	Potential
3.5	Energy Efficient pumps	3.5.1	EE water pumps (R & D)	CCT	Water & Sanitation	Peter Flower / Pierre Maritz	Yes			Ongoing		CI/BR	In respect of pump stations both water and sewage one does not find so called energy saving pumps. The size of pump is dependant on the demand and or volume of sewage to be conveyed. This would in turn determine the Kw rating of the pumps required in order to achieve this. However in the design stages energy efficiency is taken into consideration. This can be achieved by means of variable speed drives and soft starters. Most of the pump stations within the Metro have either variable speed drives or soft starters.			100 000		100 000			100 000				
		3.5.2	EE sewage pumps	CCT	Water &Sanitation	Brian Thomson	Yes					CI/BR	Generally for the replacement and upgrading of sewage pump stations (older pumpsets replaced by more energy efficient pumpsets)		1 070 000			440 000			800 000				
3.6	Street and traffic lighting retrofit	3.6.1	City wide street light retrofit	RCC:Electricity	Electricity	Shaun Arrowsmith	Yes	No info	Ongoing		No info	BR	Bulk vote-Difficult to identify what of R20m per year will be spent on E/E	2 000 000				2 000 000							
		3.6.2	DoRA funded street light retrofit	DoRA	Electricity	Shaun Arrowsmith	Yes	No info	2010	By June 2010	No info	BR	DoRA funded			3 508 772			17 543 860			22 807 020			
		3.6.3	2010 protocol area street light retrofit	Danida - Carbon Offset Grant	Electricity / Green Goal 2010	Shaun Arrowsmith / Lorraine Gerrans	Yes	G10.00059	2010	By June 2010	No info	BR	Project implementation area to be defined			1 500 000									
		3.6.4	City wide traffic light retrofit	CoCT CapEx	Transport	Bernard Oosthuizen	Yes	No info	Ongoing		No info	BR		3 481 596											
		3.6.5	2010 protocol area traffic light retrofit	Danida - Carbon Offset Grant	Transport / Green Goal 2010	Bernard Oosthuizen / Lorraine Gerrans	Yes	G10.00060	2010	By June 2010	No info	BR	Project implementation area to be defined			950 000									
3.7	Water supply efficiency	3.7.1	Water efficiency: reduces need for pumping	CCT	Water &Sanitation	Kevin Samson	Yes		Ongoing			CI/BR	To be established. Ongoing process & difficult to provide a monetary value												
		3.7.2	Gravity fed water supply - Green Point Precinct	CCT	Water & Sanitation	Julian Rodkin / Randall Joseph	Yes	C1086068F1 TENDER 84Q/2009/10	2010	2010		BR	Gravity fed water supply to Green Point Precint using Kamissa spring water.	11 700 000			12 400 000								
3.8	Greening the City's Fleet	3.8.1	Green Fleet Programme development	CCT/ DANIDA	STS / Transport	Niki Covary	Yes	G09.00072	2009			BR	Phase 1 complete; Funding required to commence with Phase 2.												
		3.8.2	Greening the Electricity Fleet	CCT	Electricity	John Esterhuizen	Yes		2007			BR	Greening the Electricity fleet Action Plan completed and updated	150 000		50 000									
		3.8.3	Greening Utility Department's fleets	CCT	Utilities Dept	?	TBC	no info	No info																
		3.8.4	Fuel Efficiency Campaign	2010 Green Goal	Transport / STS	Niki Covary	Yes	N0802018GG.NC.ET (2010 Green Goal)	2009			BR	Process has already been initiated. Launch to take place in April 2010	75 000											
		3.8.5	Eco Driver Training Pilot Project	SAPIA / 2010 Green Goal	Transport / STS	Niki Covary	Yes	Payment made directly by SAPIA	2009			BR	Pilot project to be funded by SAPIA (development of course material). Project to be rolled out to City fleet drivers internally thereafter.			30 000									
3.9	Video conferencing facilities for CCT			CCT	STS / IS&T	Gisela Kaiser	Yes		2009			BR	Development of VCF for city staff/councillors to reduce cost/ travel/carbon footprint												
Total Annual Budget Actual (A)														17 706 596		12 238 772		14 940 000		17 543 860		900 000		22 807 020	
Total Annual Budget Potential (P)															1 070 000		0		10 000 000		20 000 000		10 000 000		20 000 000
Total Annual Budget (A+P)														31 015 368				62 483 860				53 707 020			

OBJECTIVE 4. COMPACT RESOURCE EFFICIENT CITY DEVELOPMENT																									
PROGRAMME & PROJECT INFO / STATUS														BUDGET											
Prog ID	Programme	Proj ID	Project	Funding Source	Department(s) Responsible (lead Dept listed first)	Person(s) Responsible	Existing Project	WBS Element	Start Date	End Date	Targets / Quantity	Carbon Income Budget Reductn	Comments	2009_10				2010_11				2011_12			
														Internal CCT (Rands)		External (Rands)		Internal CCT (Rands)		External (Rands)		Internal CCT (Rands)		External (Rands)	
														Actual	Potential	Actual	Potential	Actual	Potential	Actual	Potential	Actual	Potential	Actual	Potential
4.1	Spatial Development Framework Plan	4.1.1	Densification Policy/Implementation Mechanisms	CCT / Danida	Spatial Planning	Norah Walker	Yes		2009/01/01	June 2010		BR	Densification strategy is being updated on the basis of the public's comments. Investigation into mechanisms that will support densification, funded by DANDIA, is nearing completion												
		4.1.2	Development Edges Policy - Urban and Coastal Edges	CCT	Spatial Planning	Norah Walker	Yes		2009/01/01	Dec 2010		BR	Policy is being updated on the basis of the public's comments												
		4.1.3	District Spatial Development Plans and Environmental Management Frameworks	CCT	Spatial Planning and ERM	Riaan van Eeden	Yes		2009/01/01																
4.2	Densification around railway stations (PRASA)			CCT & PRASA	Spatial Planning	Riaan van Eeden	Yes		2010/01/01																
4.3	WTPD Planning for a low carbon city		Conference - partnership with SEA & InWENT	CCT	Spatial Planning/ERM	Cathy Stone / Sarah Ward	Yes		Nov 2009	Mar2010			This has occurred, was hosted by CCT, booklet being prepared.	500 000		240 000									
Total Annual Budget Actual (A)														500 000		240 000		0		0		0		0	
Total Annual Budget Potential (P)															0		0		0		0		0		
Total Annual Budget (A+P)														740 000				0				0			
OBJECTIVE 5. SUSTAINABLE TRANSPORT SYSTEM																									
PROGRAMME & PROJECT INFO / STATUS														BUDGET											
Prog ID	Programme	Proj ID	Project	Funding Source	Department(s) Responsible (lead Dept listed first)	Person(s) Responsible	Existing Project	WBS Element	Start Date	End Date	Targets / Quantity	Carbon Income Budget Reductn	Comments	2009_10				2010_11				2011_12			
														Internal CCT (Rands)		External (Rands)		Internal CCT (Rands)		External (Rands)		Internal CCT (Rands)		External (Rands)	
														Actual	Potential	Actual	Potential	Actual	Potential	Actual	Potential	Actual	Potential	Actual	Potential
5.1	Integrated Rapid Transit System (IRT)	5.1.1	Roll out IRT	CCT/ PGWC/DOT	SDI	John Martheze	Yes		200...?					365 149 684		540 967 273		30 000 000		617 826 392		30 000 000	1 159 704 465		
		5.1.2	CDM (Clean Development Mechanism) Application for IRT		IRT	Niki Covary	Yes	WBS to be provided by IRT	March 09			CI	Project resides with IRT			180 999									
5.2	Non-Motorised Transport (NMT):	5.2.1	Klipfontein Corridor	CCT/ PGWC/DOT			Yes	C0710501F1/F2/F3 C1010415F2/F3/F4 C1010586F1/F3 C1010587F1 C1010588F1						10 000 000		81 000 000				20 000 000					
		5.2.2	Inner City	CCT/ PGWC/ DOT			Yes	C0810515F3 C0810514F1/F3						20 000 000		60 000 000									
		5.2.3	IRT Phase 1A_NMT	DOT/ MIG	Roads & Stormwater	Elias Tukushe	Yes									20 000 000	20 000 000								
		5.2.4	City Wide NMT	DOT/ MIG			Yes	C0710502F1/F2								4 000 000				23 000 000			30 000 000		
5.3	Travel Demand Management	5.3.1	Park & Ride	CCT/ PGWC/DOT	Transport	Melani Ohlson	Yes	C0800193F1/F2/F3 C1010524F1 C1010525F1	June 08	March 2010				47 000 000		14 500 000									
		5.3.2	Large Employer Programme	UNDP	Transport	Niki Covary	No					BR	UNDP funding available for project; in process of finalising MOA to secure funds.				1 500 000								
Total Annual Budget Actual (A)														442 149 684		720 648 272		30 000 000		640 826 392		30 000 000		30 000 000	
Total Annual Budget Potential (P)															0		21 500 000		0		20 000 000		1 159 704 465		0
Total Annual Budget (A+P)														1 184 297 956				690 826 392				1 219 704 465			

OBJECTIVE 6. ADAPTING TO AND BUILDING RESILIENCE TO CLIMATE CHANGE IMPACTS (CITY-WIDE)																									
PROGRAMME & PROJECT INFO / STATUS														BUDGET											
Prog ID	Programme	Proj ID	Project	Funding Source	Department(s) Responsible (lead Dept listed first)	Person(s) Responsible	Existing Project	WBS Element	Start Date	End Date	Targets / Quantity	Carbon Income Budget Reductn	Comments	2009_10				2010_11				2011_12			
														Internal CCT (Rands)		External (Rands)		Internal CCT (Rands)		External (Rands)		Internal CCT (Rands)		External (Rands)	
														Actual	Potential	Actual	Potential	Actual	Potential	Actual	Potential	Actual	Potential	Actual	Potential
6.1	CCT Climate Adaptation Plan of Action (CAPA)	6.1.1.a	CAPA Review	CCT	ERM	Gregg Oelofse	Yes		2008	2010			Peer review complete	45 000											
		6.1.1.b	CAPA Revision	Danida	ERM	Gregg Oelofse	Yes		2010				Revision to be made to CAPA.												
		6.1.2	Coastal Protection Zone	CCT	ERM	Gregg Oelofse / Darryl Colenbrander	Yes		2008	Dec 2010	Establish CPZ as required by new ICMA		Establish Coastal Protection Zone as required by new Coastal Zone Manageemnt Act	144 000				160 000							
		6.1.3	Legal Review	Danida - CCT Think Tank	ERM / Legal	Gregg Oelofse / Susan Mosdell	Yes		Sept 2009	June 2010			Review CCT liabilities wrt climate change, eg CPZ and planning permission			200 000									
		6.1.4	Food Security		Econ Dev / ERM	Stanley Visser / Jacques du Toit	No						Project planned under CAPA												
		6.1.5	Water security		Water & Sanitation / ERM	.../Jacques duToit	No							Project planned under CAPA											
6.2	Incorporation of CAPA outputs	6.2.1	Development approvals wrt Climate Change	CCT	PBDM	Peter Henshall-Howard							Incorporation of CC impacts into development approvals / conditions etc. This will utilise data, recommendation and policy outputs from projects within 6.1												
6.3	MOSS Strategy			CCT?	Spatial Planning / ERM	Cathy Stone	No		2010/01/01																
Total Annual Budget Actual (A)														189 000		200 000		160 000		0		0		0	
Total Annual Budget Potential (P)															0		0		0		0		0		
Total Annual Budget (A+P)														389 000				160 000				0			
OBJECTIVE 7. MORE RESILIENT LOW INCOME / VULNERABLE COMMUNITIES																									
PROGRAMME & PROJECT INFO / STATUS														BUDGET											
Prog ID	Programme	Proj ID	Project	Funding Source	Department(s) Responsible (lead Dept listed first)	Person(s) Responsible	Existing Project	WBS Element	Start Date	End Date	Targets / Quantity	Carbon Income Budget Reductn	Comments	2009_10				2010_11				2011_12			
														Internal CCT (Rands)		External (Rands)		Internal CCT (Rands)		External (Rands)		Internal CCT (Rands)		External (Rands)	
														Actual	Potential	Actual	Potential	Actual	Potential	Actual	Potential	Actual	Potential	Actual	Potential
7.1	Low income energy efficient housing	7.1.1	Energy Efficient Housing - Edward Road	Danida PGWC	ERMD Housing	Jacques Du Toit Pauline Houniet	Yes	G09.00071 G10.00018-F1	2009	2010	100 Green designed houses					500 000									
					2 500 000																				
		7.1.2	Kuyasa EE housing implementation	DEAT	ERM / URP	Wouter Roggen / Patrick Ngadini	Yes	N/A	2002	2010	2300 Houses Ph 1		DEAT project (EPWP budget to Carl Wesselink =contractor)			30 000 000									
		7.1.3	Kuyasa EE houses	ICLEI funds	ERM	Sarah Ward	Yes		2010	2010			Carbon offset funds from ICLEI conferences for development of EE housing in Kuyasa project			330 000									
7.2	Low income housing: Greening	7.2.1	Greening Tafelsig TA2 housing units	Danida - UEM	ERM / Housing	Jacques du Toit / Douglas Norman	Yes	G09.00075	2009	2010	100 Houses		This project initiated with UEMP funds 2009. Project self sustaining with ongoing investment from corporates to build on greening initiatives, eg DEAT funded training community members in installation of SWH.			400 000									
		7.2.2	Greening Kew Town	Danida - UEM	ERM / Housing	Jacques Du Toit / Pauline Houniet	Complete		2008	2009	200 Houses		This project initiated with UEMP funds 2009. Project self sustaining with ongoing investment from corporates to build on greening initiatives, eg DEAT funded training community members in installation of SWH.			400 000									
		7.2.3	Greening Wesbank	Danida - UEM	ERM / Housing	Jacques Du Toit / Pauline Houniet	Yes	G09.00071	2008	2009	201 Houses		This project entails providing Smart Living Training to selected families in Wesbank.			400 000									
		7.2.4	Greening Witsands	Danida - UEM	ERM / Housing	Jacques Du Toit / Pauline Houniet	Yes		2009	2010	200 Houses		This project initiated with UEMP funds 2009. Project self sustaining with ongoing investment from corporates to build on greening initiatives, eg DEAT funded training community members in installation of SWH.			400 000									
7.3	Low income housing: Ceilings	7.3.1	Retrofitting low income houses (Mamre) with ceilings	Danida - UEM	ERM	Jacques Du Toit	Yes	G09.00071	2010	2010	150 Houses	CI	150 Houses in Mamre to be retrofitted.			1 700 000									
		7.3.2	Retrofitting low income houses with ceilings	DEAT	ERM / Housing	Jacques du Toit / Peter Oscroft	TBC					CI	Application currently with DEAT for EPWP money.						30 000 000				30 000 000		
7.4	Low income housing: Solar Water Heaters (SWH)		Retrofitting low income houses with SWH	DEAT	ERM / Housing	Sarah Ward / Jacques du Toit / Peter Oscroft	TBC					CI	Application currently with DEAT for EPWP money.												
7.5	Free Basic Electricity rollout			Equitable share: conditional grant from Nat. Treasury / CCT 50:50	Electricity	No info	Yes		2004?				Only electricity is delivered no other energy sources as part of FB Alternative Energy - R130m/a - city portion from rates	100 640 690				96 947 000				124 819 000			
Total Annual Budget Actual (A)														100 640 690		36 630 000		96 947 000		0		124 819 000		0	
Total Annual Budget Potential (P)															0		0		0		30 000 000		0		30 000 000
Total Annual Budget (A+P)														137 270 690				126 947 000				154 819 000			

OBJECTIVE 8. DEVELOPMENT OF PROJECT CARBON SALES POTENTIAL																									
PROGRAMME & PROJECT INFO / STATUS														BUDGET											
Prog ID	Programme	Proj ID	Project	Funding Source	Department(s) Responsible (lead Dept listed first)	Person(s) Responsible	Existing Project	WBS Element	Start Date	End Date	Targets / Quantity	Carbon Income Budget Reductn	Comments	2009_10				2010_11				2011_12			
														Internal CCT (Rands)		External (Rands)		Internal CCT (Rands)		External (Rands)		Internal CCT (Rands)		External (Rands)	
														Actual	Potential	Actual	Potential	Actual	Potential	Actual	Potential	Actual	Potential	Actual	Potential
8.1	Carbon trading scoping and development	8.1.1	Carbon Projects Scoping Assessment	SEA	ERM	Sarah Ward	Yes		2009	Feb2010	Complete					165 000									
		8.1.2	Carbon sales policy	CCT	Legal	Sue Mosdell / Sarah Ward	Yes		2009	2010															
8.2	Carbon trading capacity development	8.2.1	Carbon sales training	Restructuring grant	ERM	Sarah Ward	Yes		2009	2009	Complete			100 000											
		8.2.2	Carbon Finance Capacity Building	World Bank / ECOS	ERM	Sarah Ward	Yes		2009				Worth R 45 000 per month to CCT in value = R 540 000 per annum 2010-2012						540 000				540 000		
8.3	Carbon sales	8.3	Carbon register	CCT	ERM	Sarah Ward	Yes		2010	Ongoing															
		8.3.2	Kuyasa CDM project - carbon sales	CCT	Legal / ERM	Sue Mosdell / Sarah Ward	Yes		2010	2031		CI	Anticipated income to the City is R 750,000 per annum for 21 years												
Total Annual Budget Actual (A)														100 000		165 000		0		0		0		0	
Total Annual Budget Potential (P)															0		0		0		540 000		0		540 000
Total Annual Budget (A+P)														265 000				540 000				540 000			
OBJECTIVE 9. LOCAL ECONOMIC DEVELOPMENT IN THE ENERGY SECTOR																									
PROGRAMME & PROJECT INFO / STATUS														BUDGET											
Prog ID	Programme	Proj ID	Project	Funding Source	Department(s) Responsible (lead Dept listed first)	Person(s) Responsible	Existing Project	WBS Element	Start Date	End Date	Targets / Quantity	Carbon Income Budget Reductn	Comments	2009_10				2010_11				2011_12			
														Internal CCT (Rands)		External (Rands)		Internal CCT (Rands)		External (Rands)		Internal CCT (Rands)		External (Rands)	
														Actual	Potential	Actual	Potential	Actual	Potential	Actual	Potential	Actual	Potential	Actual	Potential
9.1	Renewable energy business in Cape Town: Study			CCT	Econ Dev	Jeremy Marilier	Yes		2009	April 2010			NB to pursue links with Province and Wesgro work	150 000											
9.2	Establishment of Renewable Energy SPV: WC/CCT			EU or other	Prov and City Econ Dev / Wesgrow / ERM	Nigel Gwynne-Evans / Sarah Ward	Yes		2010				Intention to create vehicle that can drive RE across Province												
Total Annual Budget Actual (A)														150 000											
Total Annual Budget Potential (P)																									
Total Annual Budget (A+P)														150 000											

OBJECTIVE 10. ENERGY & CLIMATE CHANGE COMMUNICATION AND EDUCATION PROGRAMMES																									
PROGRAMME & PROJECT INFO / STATUS														BUDGET											
Prog ID	Programme	Proj ID	Project	Funding Source	Department(s) Responsible (lead Dept listed first)	Person(s) Responsible	Existing Project	WBS Element	Start Date	End Date	Targets / Quantity	Carbon Income Budget Reductn	Comments	2009_10				2010_11				2011_12			
														Internal CCT (Rands)		External (Rands)		Internal CCT (Rands)		External (Rands)		Internal CCT (Rands)		External (Rands)	
														Actual	Potential	Actual	Potential	Actual	Potential	Actual	Potential	Actual	Potential	Actual	Potential
10.1	Electricity Saving Campaign	10.1.1	Social Research and Development of Electr Saving Campaign Strategy	SEA	ERM	Sarah Rushmere	Yes	N/A	2009	2009	Complete		Funds for City EE projects sitting in SEA bank account			130 000									
		10.1.2	Electr Saving Campaign rollout	Danida - UEM / CCT Electricity Dept	Corp Comms / ERM / Electricity	Themba Ngada / Sarah Rushmere	Yes	G10.00036 G09.00077 G09.00074	2010	2012?			Tariff funded communications fund	300 000		1 750 000		2 400 000	254 000						
		10.1.3	Social marketing electr savings campaign	UCT	Electricity / ERM	Sarah Rushmere	Yes		2009	2010			Pilot project with UCT Economics Dept & CCT - consumption information to households						600 000				600 000		
10.2	Energy Efficiency Forum for Commercial Buildings			ESKOM	ERM	Sarah Rushmere	Yes		2009	Ongoing						30 000				30 000					
		SAPOA												10 000		70 000									
		Santam												20 000			20 000								
		SACSC												20 000											
10.3	Schools / Youth / Citizens	10.3.1	Green Schools Audit	Danida - UEM	ERM	Lindie Buirski	Yes	G10.00037	2009	June 2010			7 Schools wre audited and retrofitting will happen between March - June 2010												
		10.3.2	Education & Capacity Building - Climate Change Adaptation and Mitigation	Danida - UEM	ERM	Lindie Buirski	Yes	G09.00076	2008	June 2010			YES Drama Festival with CC theme+, Food & CC in Schools Prog.			858 505									
		10.3.3	Education & Capacity Building - Energy efficiency and resource conservation	Danida - UEM	ERM	Lindie Buirski	Yes	G09.00073	2008	June 2010			Teacher training on CC & EE			211 386									
		10.3.4	Audio visual training video	Restructuring grant	ERM / Corp Comms	Penny Price / Michelle Preen	TBC	G08.00080	2010	2010			Procurement issues being investigated - exisiting video to be updates		200 000										
10.4	Smart Living campaign	10.4.1	Smart Living corporate campaign	CCT	ERM	Lindie Buirskie	Yes						This campaign is to engage with residents of Cape Town through the channel of commercial institutions to disseminate, monitor and evaluate the ‘Smart Living Handbook’. The campaign is opening dialogue between business, community and government, creating a platform for partnerships critical to sustainable development.			195 000									
		10.4.2	Smart Living pilot programme	CCT	ERM	Lindie Buirski	Yes						180 000												
		10.4.3	Smart Living Handbook	Restructuring Grant	ERM	Michelle Preen	Yes						The existing SLH, which includes a section on Energy is currently being reviewed and updated and a new Smart Office Handbook is also being produced.			300 000 (TBC)									
10.5	Staff training CCT	10.5.1	Development of training material for staff training	Restructuring Grant	ERM / Corp Comms / Electricity	Lindie Buirski / Sarah Rushmere / Gisela Kaiser / Themba Ngada	TBC	G08.00080	2010	2010			Training Programme				250 000								
10.6	Enviroworks		Bi-annual environmental newsletter of the City of Cape Town	CCT	ERM	Michelle Preen	Yes		Ongoing		10 000 Printed per edition		The December 2010 edition had an Energy and Climate Change theme.	260 000											
10.7	Green Building Guidelines			Danida - UEM	ERM	Jacques Du Toit	Yes	G09.00050					Finalisation, DTP to put Green Buildings Guidelines on CCT website	80 000											
10.8	Resource efficiency campaign		Resource efficiency campaign for whole City		Corporate Comms / ERM	Osman Asmal	Yes						Initial stages - coordination of all campaigns												
Total Annual Budget Actual (A)														820 000		3 224 891				304 000		0		0	
Total Annual Budget Potential (P)															200 000		250 000		2 470 000		600 000		0		600 000
Total Annual Budget (A+P)														4 494 891				3 374 000				600 000			

OVERALL. ENERGY & CLIMATE CHANGE RESEARCH AND DEVELOPMENT; MONITORING AND EVALUATION																											
PROGRAMME & PROJECT INFO / STATUS														BUDGET													
Prog ID	Programme	Proj ID	Project	Funding Source	Department(s) Responsible (lead Dept listed first)	Person(s) Responsible	Existing Project	WBS Element	Start Date	End Date	Targets / Quantity	Carbon Income Budget Reductn	Comments	2009_10				2010_11				2011_12					
														Internal CCT (Rands)		External (Rands)		Internal CCT (Rands)		External (Rands)		Internal CCT (Rands)		External (Rands)			
														Actual	Potential	Actual	Potential	Actual	Potential	Actual	Potential	Actual	Potential	Actual	Potential		
11.1	Energy and Climate Change: Research and Development	11.1.1	Climate Change Think Tank - Mitigation and Adaptation Research & Development	Danida (under SEA management)	ERM	Gregg Oelofse / Sarah Ward	Yes	N/A	Sept 2009	Dec 2010			CCT Long term mitigation scenarios; E&CC legal and finance framework development; decision making matrix etc; adaptation freshwater research			2 000 000											
		11.1.2	Low Carbon Zone Project WWF	WWF	ERM	Sarah Ward	Yes	N/A					Has been combined with LTMS			150 000											
11.2	Energy data management, monitoring and evaluation	11.2.1	CoCT Energy Management System	CCT	SDI & GIS / ERM & other Depts	Keith Smith / Amy Davison	Yes	N/A	2002	Ongoing			Energy data still very patchy; LTMS is current data collection process. Project to be initiated via EMT Energy Sub Committee to establish more consistent data management (see 11.3.2; 11.2.3; 11.2.4)														
		11.2.2	Pilot Project: Electricity consumption of City Buildings	CCT	SDI & GIS / ERM & other Depts	Keith Smith / Amy Davison	Yes	N/A	Jan 2010	June 2010			Pilot project on energy data on CCT buildings - SDI & GIS leading cross dept task team, initiated via EMT Energy Sub Committee to meet needs of Project 11.2.1. Phase 1 (buildings) to be completed by June 2010.														
		11.2.3	Atmospheric carbon measurement	CSIR / Other funding?	Health / ERM	Ian Gildenhuys/Sarah Ward	TBC		2010				Discussions with CSIR underway														
11.3	Air Quality Management Plan	11.3.1	Air Quality - Emissions database	Danida	Health	Ian Gildenhuys	Yes	no info	2009							200 000											
		11.3.2	VOC		Health	Ian Gildenhuys																					
		11.3.3	Vehicle emissions		Health	Ian Gildenhuys																					
11.4	Statutory/Policy Linkages and Alignment	11.4.1	IDP SFA 3		IDP / ERM	Walton Carelse / Sarah Ward / Amy Davison	Yes	N/A	2008				Redefinition of SFA3 2010														
		11.4.2	IMEP Agenda - development of business plans	Danida - UEM	ERM	Gregg Oelofse / Amy Davison		G09.00052	2009	2010			8 business plans currently being developed for selected E&CCprojects			500 000											
Total Annual Budget Actual (A)														0		2 850 000		0		0		0		0		0	
Total Annual Budget Potential (P)															0		0		0		0		0		0		
Total Annual Budget (A+P)														2 850 000				0				0					