

# Playing the Game with Integrity and Passion

Annual Report

09



Unlocking Energy



Annual Report Presentation to the Portfolio Committee on Public Enterprises

23 March 2010

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- Annual Report Presentation
- Update on Current Events
- Way Forward

**ANNUAL REPORT  
FINANCIAL PERIOD ENDING  
31 MARCH 2009**

# Annual Report for Financial Period Ending 31 March 2009

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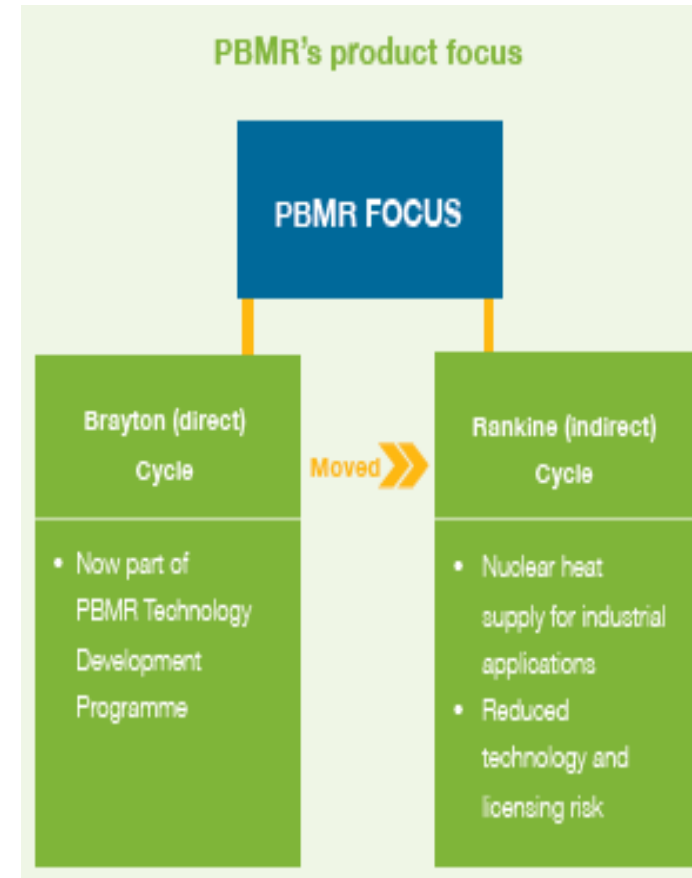


# Introduction



# Introduction

- Key changes in business model and product offering due to significant changes locally and internationally in economic and energy environments
- Main reasons for the change in strategy
  - global economic climate
  - funding restrictions
  - emergence of potential process heat clients
  - PBMR's continuous and successful involvement in the United States Department of Energy's Next Generation Nuclear Plant (NGNP) programme
- Restructuring and skills preservation



# Mission



# PBMR Mission Statement

## ■ Vision

- Bringing the benefits of pebble power to humankind.

## ■ Mission

- To provide environmentally friendly, accessible and market-driven nuclear energy systems.

## ■ Values

- Safety and quality without compromising on standards
- Customer and stakeholder-centric
- Respect for people
- Relentless pursuit of excellence
- Partnering to create sustainable success

## ■ Brand

- Your future energy solution today.



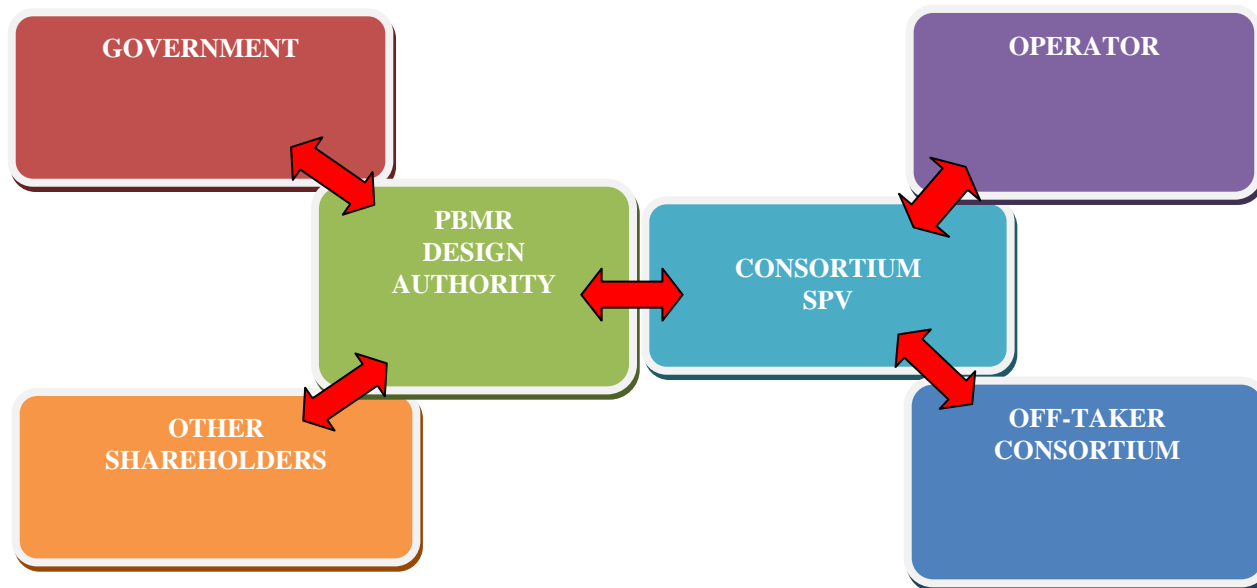


# Time for Change



# Time For Change

- PBMR could be South Africa's Nuclear Design Authority!
- Role Clarity and Commercial Business Model
  - Government and other shareholders
  - Off-taker Consortium and Operator



# Highlights



# Highlights

- Excellence throughout PBMR
- Unqualified audit report – 31 March 2009
- Cost cutting/cash preservation
- Culture shaping process
- Nuclear licensing – Nuclear Design Authority
- Enterprise Architecture Project
- Suppliers Conference
- Charity initiatives
- Environmental Impact report submitted (Koeberg)
- Fuel delivery to US & Russia
- Progress on DPP200 Reactor Design

# Highlights

- NGNP bidding
- Technology Innovation awards (world class technology programs)
- National Nuclear Regulator (NRR) issued a licence to the Fuel Development Laboratories to produce kernels with 9.6% enriched uranium
- Delivery of the core unloading device (CUD) to the Helium Test Facility at Pelindaba
  - The CUD is a truly home grown technology, engineered by South Africans for SA
- A record of 200 000 and 250 000 accident-free hours was achieved by both the Helium Test Facility and Fuel Development Laboratories respectively

# Performance against Strategic Objectives

# Strategic Objectives

Objective	Measured by	Status
<p><b>Select a near-term product configuration based on customer requirements</b></p>	<p>Supporting analysis, independent international review and assessment for product selection</p>	<p>PBMR Board approved the indirect Rankine cycle (PBMR-200 DPP) for electricity and process heat</p>
<ul style="list-style-type: none"> <li>▪ <b>Develop an affordable business case and financial model to retain existing investors and attract new investors.</b></li> </ul>	<ul style="list-style-type: none"> <li>▪ Approved 2009-Corporate Plan</li> <li>▪ Extensive stakeholder engagement to ensure repositioning</li> </ul>	<ul style="list-style-type: none"> <li>▪ Approved Corporate Plan by the PBMR Board (May 2009)</li> <li>▪ Extensive internal and external consultation and collaboration to reposition PBMR</li> </ul>

# Strategic Objectives (cont.)

Objective	Measured by	Status
<b>Establish a sustainable, affordable funding model in support of the business of PBMR</b>	<ul style="list-style-type: none"><li>▪ Approved business plan</li><li>▪ Approved funding model</li><li>▪ Extensive stakeholder engagement</li><li>▪ New draft shareholders' agreement aligned to the new business plan and financial model</li></ul>	<ul style="list-style-type: none"><li>▪ Board-approved business plan and funding model</li><li>▪ Government supports the plan but the financial ability is challenging</li><li>▪ Extensive consultation with stakeholders / investors</li><li>▪ New draft shareholders' agreement with DPE</li></ul>



# Strategic Objectives (cont.)

Objective	Measured by	Status
<p><b>Partner/collaborate internationally to ensure the commercialisation of the pebble bed technology</b></p>	<ul style="list-style-type: none"> <li>▪ Secure and strengthen PBMR's participation in the United States Department of Energy's Next Generation Nuclear Plant (NGNP) programme</li>   <li>▪ Join the European Union's EUROPAIRS programme (end-user requirements for nuclear process heat applications with innovative nuclear reactors for sustainable energy supply)</li> </ul>	<ul style="list-style-type: none"> <li>▪ The NGNP Alliance submitted a bid to the United States Department of Energy based on PBMR's new product configuration</li>   <li>▪ PBMR has joined EUROPAIRS as a member, which is a European initiative similar to the NGNP in the United States</li> </ul>

# Strategic Objectives (cont.)

Objective	Measured by	Status
<b>Develop a consortium of customers made up of high-end energy users in South Africa with the aim of evolving into a programme similar to the United States NGNP</b>	<ul style="list-style-type: none"><li>Formally establish a PBMR customer consortium group in South Africa</li><li>Planned launch date is June 2010</li></ul>	<ul style="list-style-type: none"><li>Sasol and PetroSA have accepted PBMR's invitation to join the PBMR Customer Support Group</li><li>Further meetings are scheduled with companies in the Energy-Intensive Users Group</li><li>Continue to establish / formalise the role of Eskom and Necsa in the consortium</li></ul>

# Technology Development



# Technology Development

- 6 South African universities and Necsa participate in various research activities to further the technologies required to keep PBMR at the forefront of nuclear reactor development in future
- Technology Development Programme includes, amongst others, R&D on the minimisation of nuclear waste, improved materials and fuel measurement techniques



# Technology Development (Cont.)

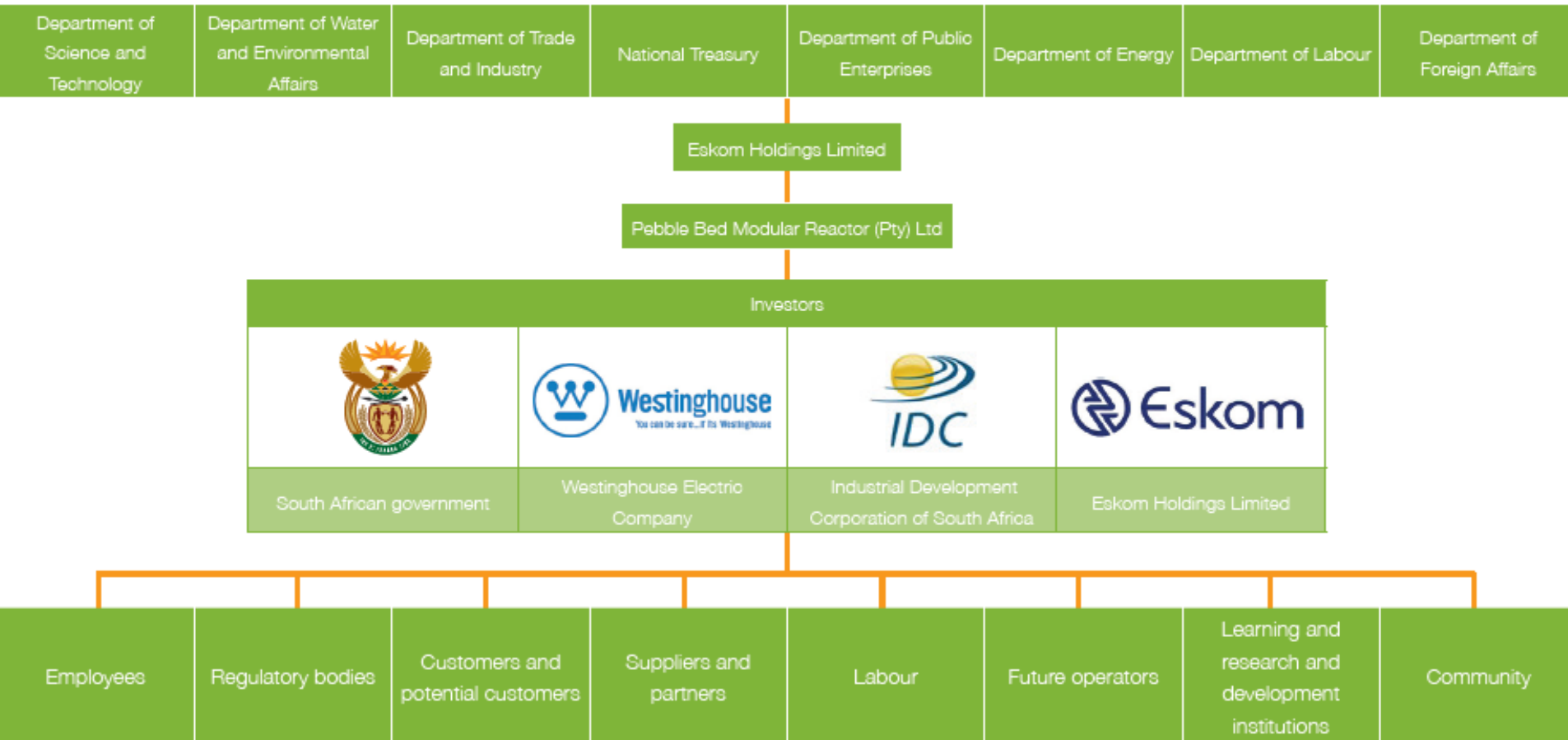
- PBMR - one of the largest and most efficient programmes by any company in South Africa
- Statistics:
  - Number of scientific papers published since 2006: 160
  - Number of baccalaureus degrees since 2006: 2 (BEng)
  - Number of honours degrees since 2006: 28 (BSc Hons)
  - Number of master's degrees since 2006: 54 (MEng and MSc)
  - Number of doctorates since 2006: 34 (PhD)
  - Number of post-doctoral fellows: 3



# Corporate Governance

# Corporate Governance

## PBMR'S STAKEHOLDERS



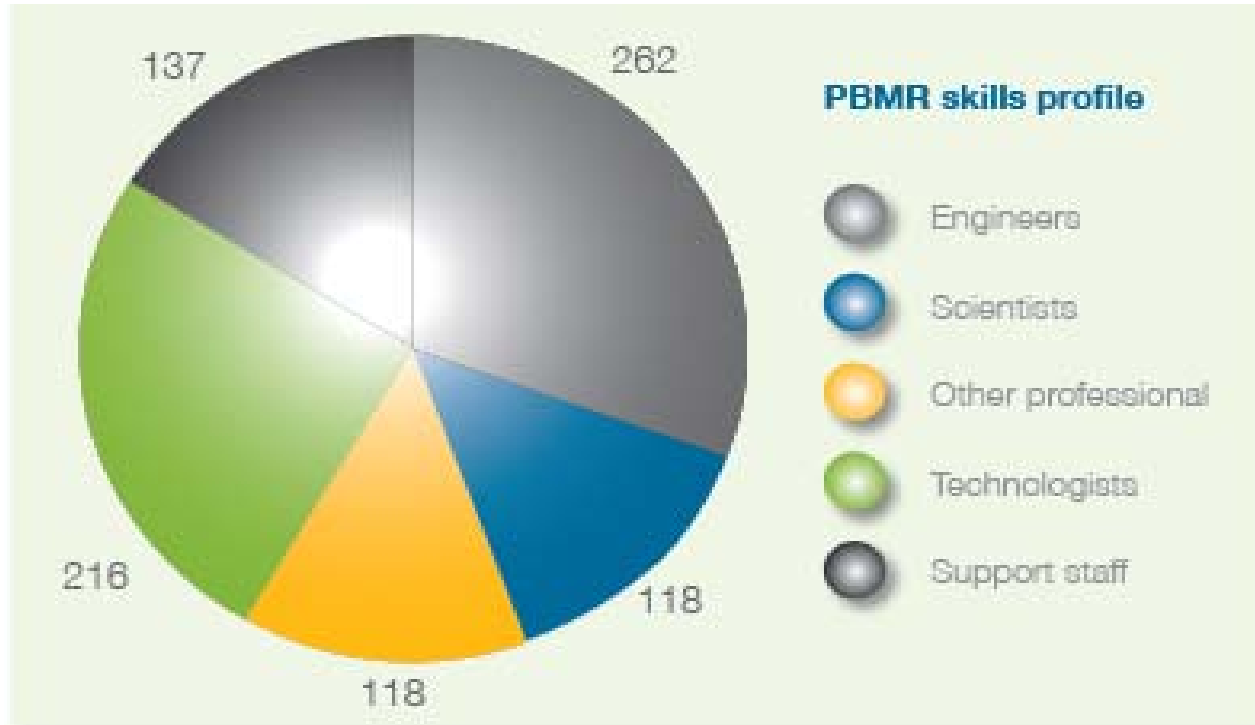
# Corporate Governance

- Oversight by DPE
- Accountable to Investors to preserve Shareholder Value
- Board of PBMR
- Sub-committees of the Board include:
  - Audit, Risk and Finance Committee
  - Human Resources and Remuneration Committee
  - Commercial Committee
  - Technology Committee
  - Project Delivery Committee
- Members of Board committees are selected based on specific skills requirements of the respective committees to adequately fulfil their duties
- Management Committees include: Executive Committee (Exco), Procurement Committee, Employment Equity Committee, Workplace Forum Committee, Remuneration Committee, and Job Grading Committee



# Employment Equity

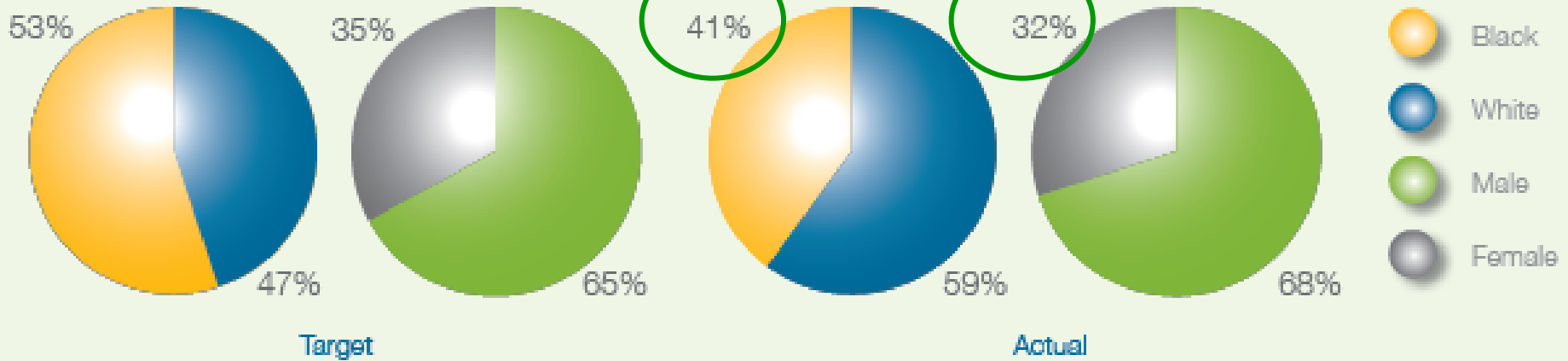
# PBMR Skills Profile



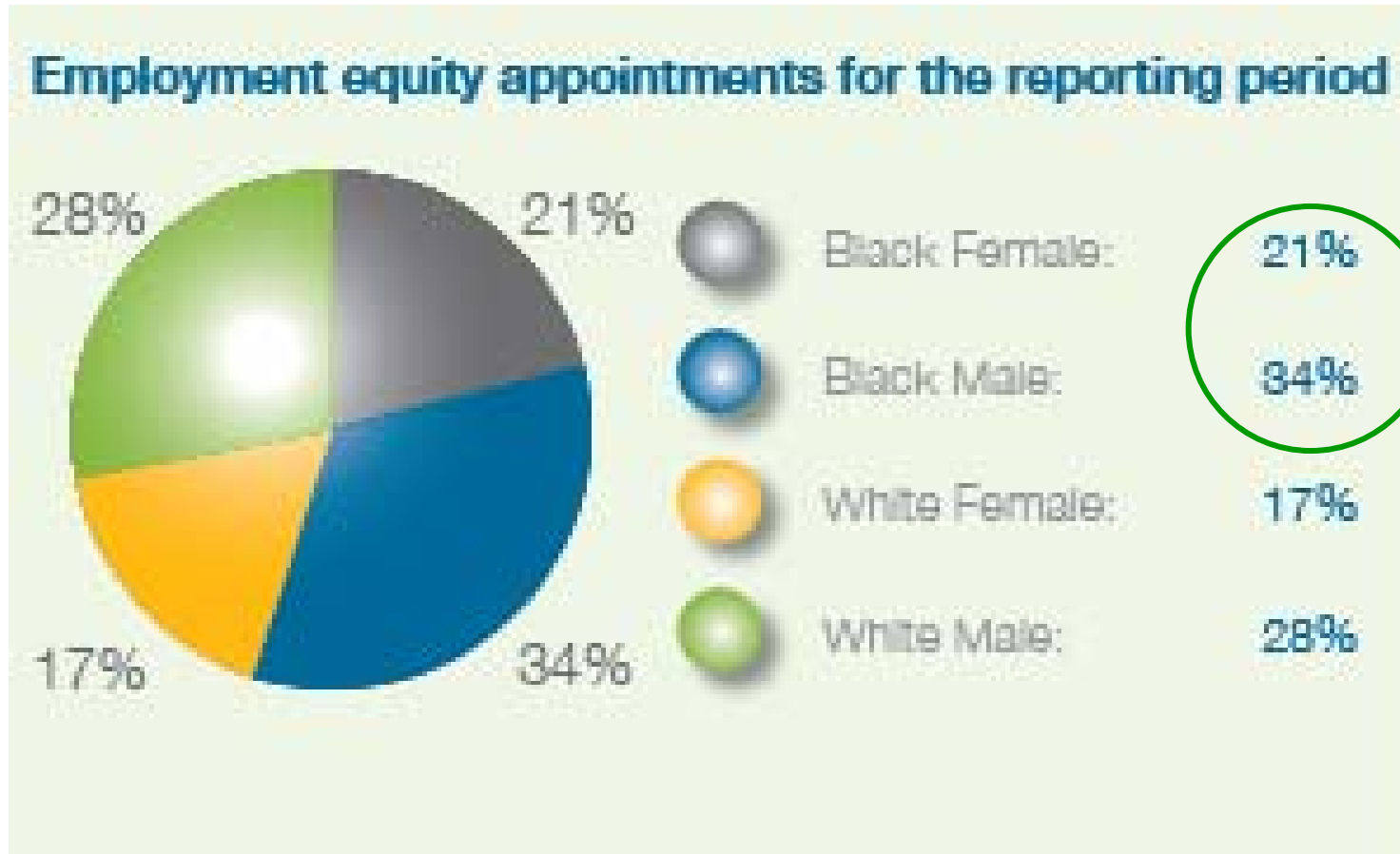
- **851 Employees**
- **596 (70%) Engineers, scientists and technologists in March 2009**

# Employment Equity

Employment equity figure: actual and targets



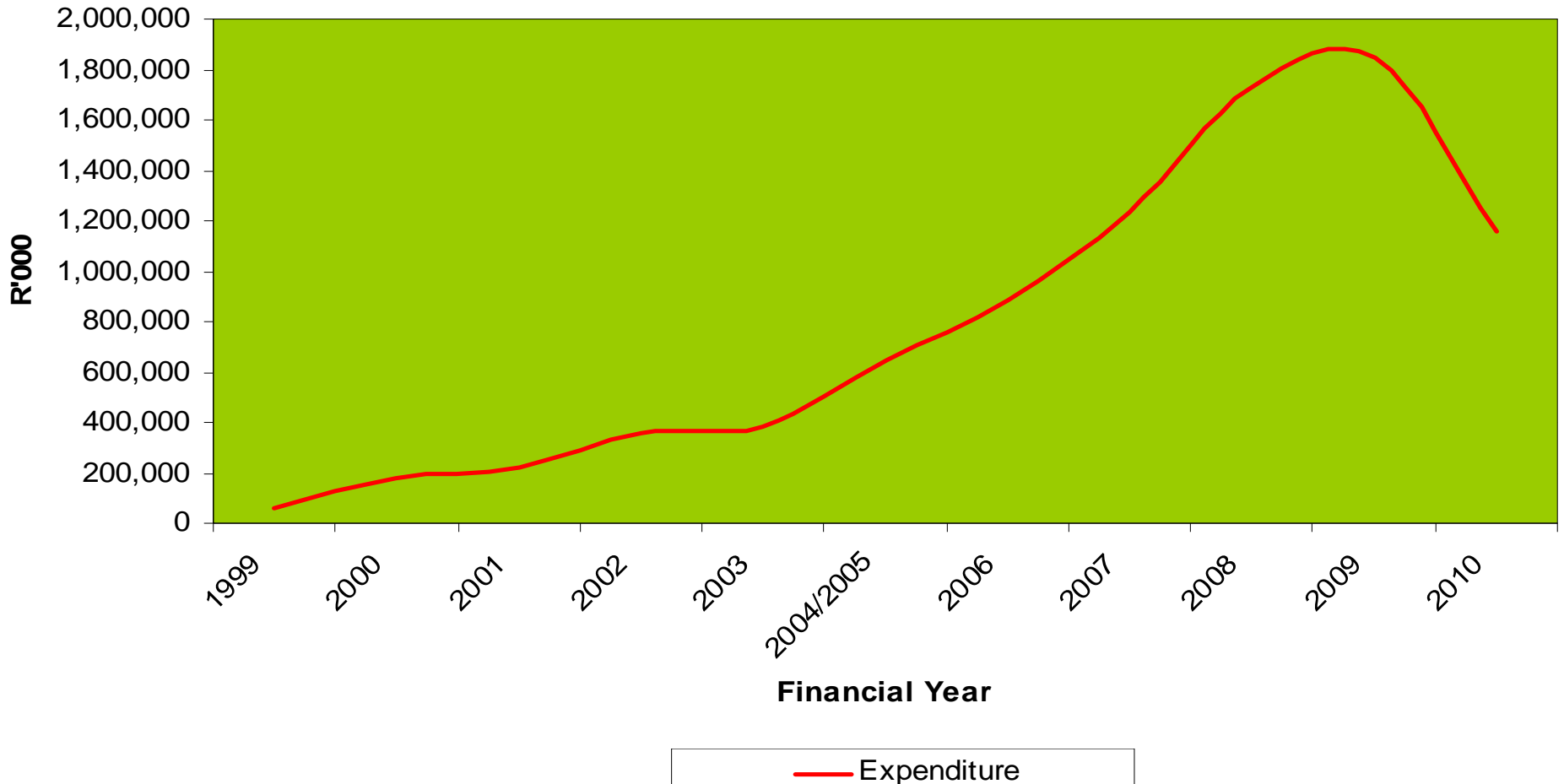
# Employment Equity Appointments – 2008/09



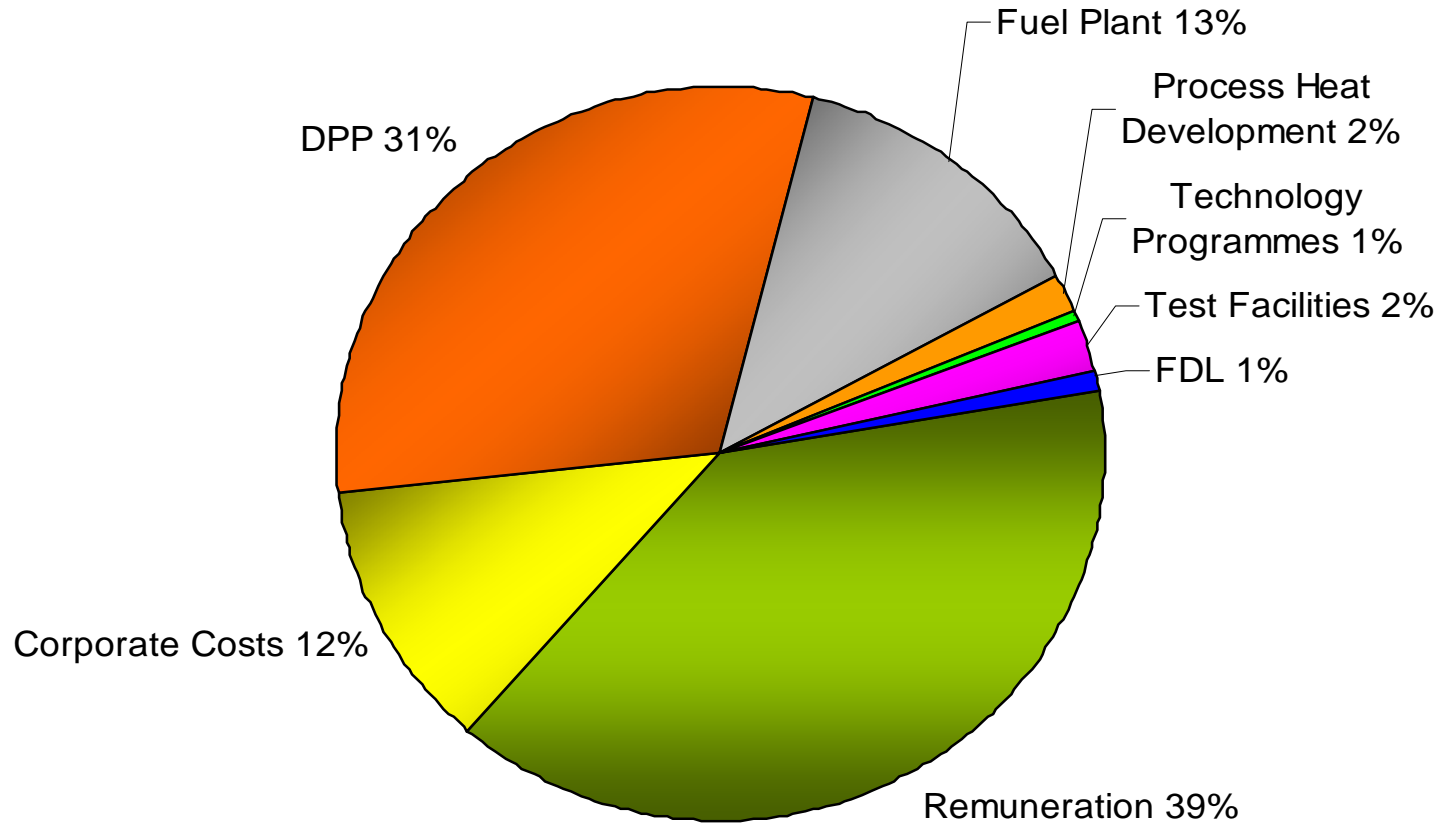
- 2008/09 Appointments – 55% Black

# Financial Information

# Annual Incremental Spend to 31 December 2010 – R8.7 billion



# Categories of Spend to 31 December 2009 – R8.7 billion



# Budget vs. Actual – 2008/2009

Expense Category	Original Budget R'000	Actual R'000	Variance R'000
Remuneration	573,216	603,598	(30,382)
Corporate Costs	237,984	159,116	78,868
Process Heat Plant Development	42,590	38,794	3,796
Technology Programmes	40,750	21,724	19,026
Fuel Development Laboratories	22,156	25,731	(3,575)
Test Facilities	30,127	21,514	8,613
Fuel Operations	44,077	30,066	14,011
DPP	1,058,900	714,026	344,874
Fuel Plant	301,903	233,356	68,547
	<b>2,351,703</b>	<b>1,847,925</b>	<b>503,778</b>
Contingency	235,166		235,166
	<b>2,586,869</b>	<b>1,847,925</b>	<b>738,944</b>

These figures are as incorporated in monthly Management Accounts and IFRS adjustments are not taken into account



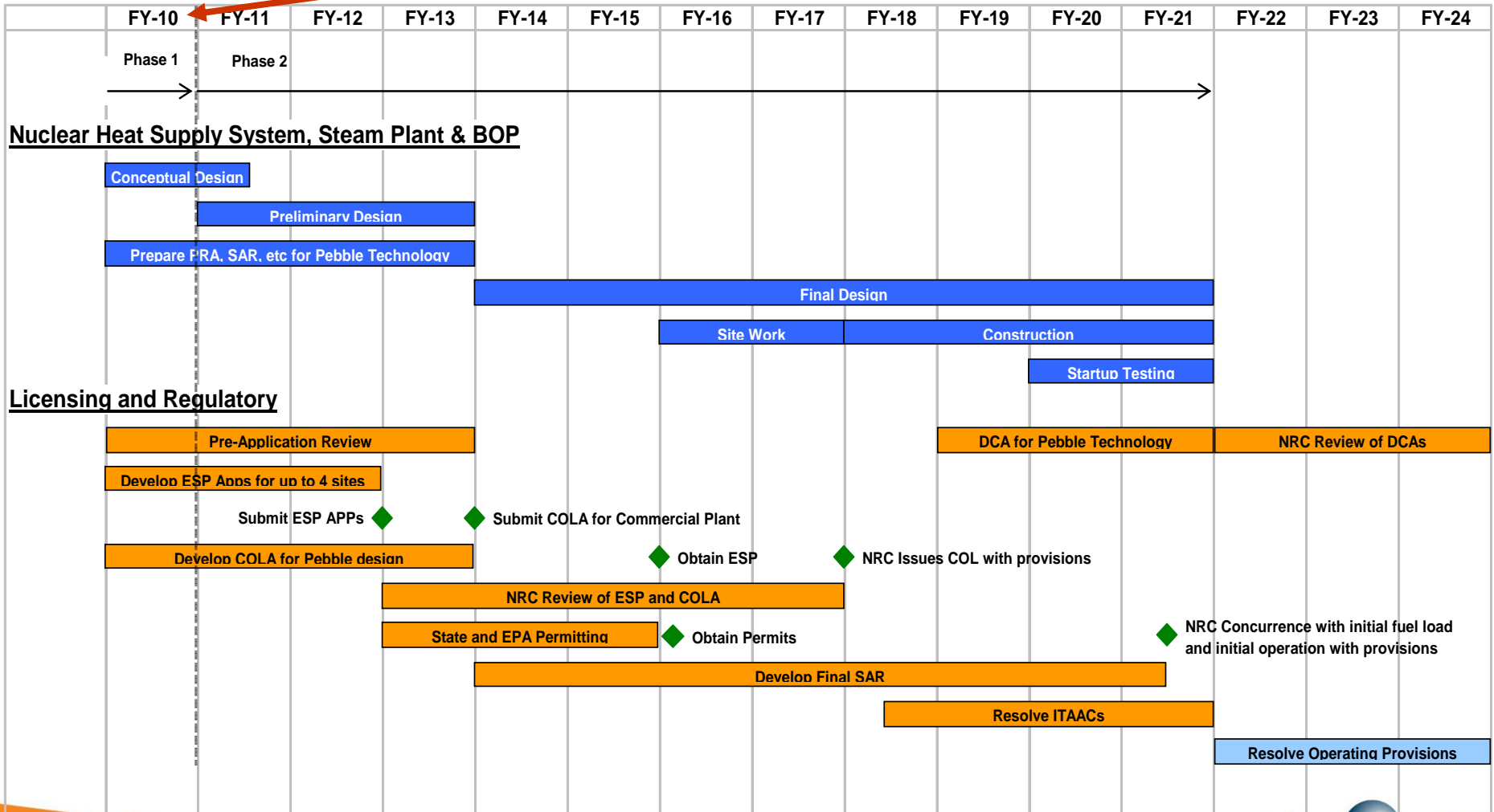
# Contributions by Investors

## Contributions available for investment (excl VAT)

	Total R'million	SA Government R'million	IDC R'million	Eskom R'million	WEC R'million	Excelon R'million
Up to 31 August 2005	2,086	600	264	817	304	101
1 September 2005 to 31 March 2006	848	509	193		146	
1 April 2006 to 31 March 2007	1,056	1,056				
1 April 2007 to 31 March 2008	2,195	2,195				
1 April 2008 to 31 March 2009	1,534	1,534				
	7,720	5,894	457	817	450	101
1 April 2009 to 31 March 2010	1,524	1,524				
	9,244	7,419	457	817	450	101

# US DOE - NGNP Programme Phase 1 FY-10 US\$40 Million

Fiscal year: 1 October - 30 September



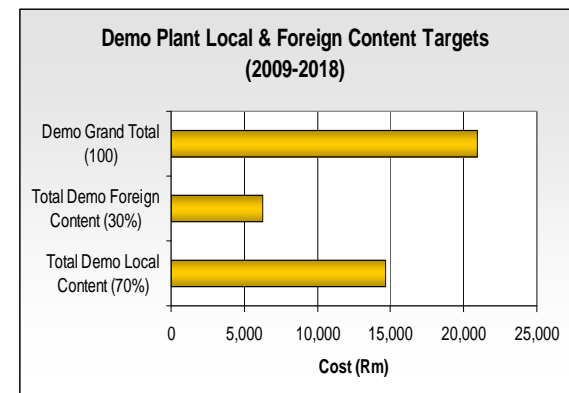
P B M R

# Value Created



# PBMR Value Created

- **Advancement of Science and Technology**
- **Local Nuclear Industry Development**
  - Localisation and Competitive Supplier Development Programme (CSDP)
  - Formation of Nuclear Industry Association of South Africa (NIASA)
- **Social and Economic Transformation, Growth and Development**
- **International Value**
  - Next Generation Nuclear Plant (NGNP)
  - EUROPAIRS
  - Canadian oil Sands
  - Gen IV forum
- **Systems and Intellectual Property**
- **Hydrogen from an HTGR plant**



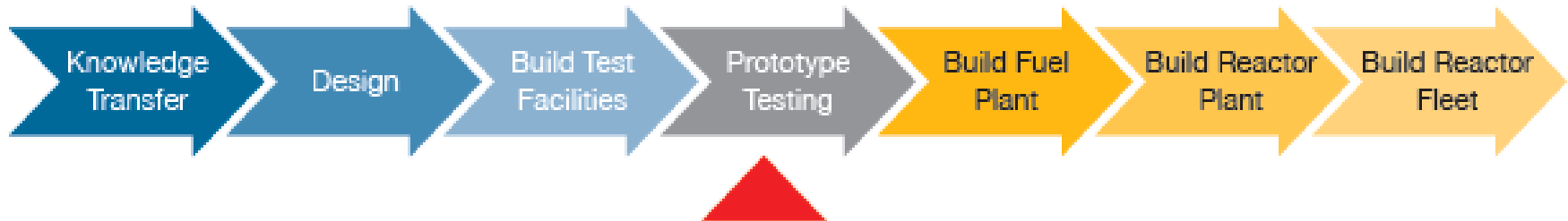
*Plant Costs estimated*

# PBMR Value Created

- Test Facilities
  - Helium Test Facility
  - Fuel Development Laboratories
  - High Temperature Test Unit
  - High Pressure Test Unit



The Helium Test Facility (HTF)



- Test Facilities form part of the Development Process

# Independent Socio-Economic Development and Impact

## MEGA PROJECT COMPARISON SUMMARY

	Richards Bay	Sasol	Motor industry	PBMR Project Est 2045
Turnover		R130 bn	R275 bn	R120 bn
GDP	R32 bn+	n/a	R160 bn	R105 bn
B O Payments		+R40 bn	-R(15-30) bn	+R8 bn
Employment	150 000+	194 000	500 000	500 000
Dependents	600 000+	776 000	2 000 000	2 000 000

Source: Econometrix (2008)

# UPDATE ON CURRENT EVENTS

# Update of Current Events

- Adoption of Financial Policy in December 2009:
  - To curtail expenditure and commitment to meet available financial resources
- Participation in Phase 1 of US DOE's NGNP
- With approval from Minister of Public Enterprises the Board of PBMR contemplate large scale retrenchments and are currently in consultation with employees in accordance with the Labour Relations Act
- Scale down or mothball test facilities, fuel laboratories and technology programmes at 6 SA Universities (would require an additional R72 million)



# Budget for April 2010 to 31 March 2011

## R' million

Opening Cash 1 April 2010:	448
+ US DOE NGNP revenue	75
- Expenses	<u>(462)</u>
Net cash available	61
- Residual closure cost	<u>(47)</u>
= Cash Surplus	<u>14</u>

# Principles

- Curtail expenses and commitments to meet cash resources as stated in 2009 Annual Report  
[Financial Policy adopted at the Board meeting on 4 December 2009]
- Use existing cash resources to fund the operating cost and closure cost from 1 December 2010 to March 2011  
[Base case for the financial period ending March 2011 attached]
- Continue to explore opportunities to save cash and create flexibility and optionality in the next 60 days  
[Propose to PBMR Board Sub Committee]

# Objectives of the Company

## ■ Primary Objectives

- Protect IP of HTR technology for Government & existing Investors
- Aim to retain core skills and know how
- PBMR effectively operates as a stand alone legal entity
- Contemplate a reduction of current staffing levels to 237
- Ensure a capability to deliver on the US DOE's NGNP FOA

## ■ Shareholding (finalise shareholders agreement)

- Secure funding from existing investors
- Attract new investors
- Clarify the relationship and role of Eskom going forward

## ■ Customer(s)

- Secure NGNP as anchor customer
- Develop other customers e.g. EU - EUROPAIRS and Canadian Petroleum Technology Alliance of Canada

# WAY FORWARD



# Way Forward

- Leverage value created to date for SA's economic benefit
- Organisational alignment and restructuring of the company
- Nuclear Design Authority (NDA) and nuclear licensing
- Enterprise Architecture
- DPP200 design in line with NGNP
- Cost cutting and cash preservation
- Product and customer alignment
- Long term - Fuel design & strategy

# Thank you for your time

## Contact details

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