CONTENTS

• Phase I
• Phase II
• Costs
• Implementation program
✓ Treaty signed on 24 Oct 1986
✓ Phase II Agreement signed on 11 August 2011
WHAT IS THE LHWP?

• Bi-national interbasin water transfer
  - ultimate delivery 70 m³/s
• 5 Phases - 30 year
• Implementation - LHWC, LHDA & TCTA
• One of largest engineering projects
• Worth $ 8 billion
WHY THE LHWP?

• Augmentation for Vaal System in RSA
• Millions people without water
• Cheaper alternative source
• Good quality water
• Opportunity for regional development
• Hydro-electricity for Lesotho
PARTIES THAT FEATURE IN WATER TRANSFER

Funded by water users not RSA taxpayers
Project governance

LESOTHO HIGHLANDS WATER COMMISSION

Gov of Lesotho

Gov of South Africa
PHASE 1A & 1B
POWERLINES
PHASE II & KOBONG PUMP STORAGE SCHEME
LHWP PHASE II

Polihali Dam
163.5m high rockfill dam
49.5m Saddle dam

Transfer Tunnel
38.2 km long
5.2m diameter

Kobong Pump storage
101m high Kobong Dam
6.3 km tunnels 11.5m dia

Polihali Dam
163.5m high rockfill dam
49.5m Saddle dam
TBM
BREAKTHRU
KOBONG
PUMP STORAGE
SCHEME
PROJECT STATUS

Lower Dam = Katse Dam
Upper Dam = Kobong Dam
Dam height = 101 meters
Headrace Tunnel length = 4270 meters
Headrace Tunnel diameter = 11.5 meters

• Detailed Feasibility Study funded by Swedish Government to commence in October 2010
• Feasibility Study complete Feb 2012
• Detailed design May 2012 to January 2014
• Construction to start March 2014
• Completion end 2018
## ADVANCED INFRASTRUCTURE

### ROADS
- St Peters to Oxbow Rd
- Oxbow to Seate Bridge Rd
- Seate Bridge to Mapholaneng Rd, etc.

= OR =
- Matsoku to Polihali Route

### FEEDER ROADS
- Mokhotlong to Mositeng
- Chaba Li Maketse to Moeaneng
- Ha Tlhakola to Makalong
- Ramoruti to Ha Pohla
- Ntlholohetsane to Ha Letjama
- Various road bridges

### RESIDENTIAL AREAS
- Client, Engineer, Contractor facility, Lodge @ Mporosane and Polihali
- Labour camps

### CONSTRUCTION POWER
- Reroute Letseng-Tlokoeng 33kV line
- Reroute Tlokoeng-Mapholaneng 33kV line
- Reroute Mapholaneng-Mokhotlong 33kV line
- New line 132kV line (Kao option done by LEC to be considered later)

= OR =
- Matsoku to Polihali line

### TELECOMMUNICATIONS
- Relocate existing lines
- Polihale dam connection
- Tunnel connection @ Polihali

### Client, Engineer, Contractor facility, Lodge @ Mporosane and Polihali

### Labour camps

### Upgrade Ha Lejone sub station
COSTS & IMPLEMENTATION PROGRAM
## RSA - WATER TRANSFER COSTS

<table>
<thead>
<tr>
<th>Category</th>
<th>Dec 2010 Costs (mill)</th>
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</thead>
<tbody>
<tr>
<td>Polihali Dam</td>
<td>USD322M</td>
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<tr>
<td>Tunnel</td>
<td>USD243M</td>
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<tr>
<td>Infrastructure</td>
<td>USD148M</td>
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<tr>
<td>Engineering</td>
<td>USD130M</td>
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<tr>
<td>Administration</td>
<td>USD78M</td>
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<tr>
<td>Environment</td>
<td>USD149</td>
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<tr>
<td>Social Costs</td>
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</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>USD1,070M</strong></td>
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</tbody>
</table>
## GOL - HYDROPOWER COSTS

<table>
<thead>
<tr>
<th></th>
<th>2007 PRICES</th>
<th>Dec 2010 PRICES</th>
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</thead>
<tbody>
<tr>
<td>1000mw Pump Storage</td>
<td>R 5200 million</td>
<td>R 6136 million</td>
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<tr>
<td>Transmission Line</td>
<td></td>
<td>R 1500 million</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td><strong>R 5 200 million</strong></td>
<td><strong>R 7 636 million</strong></td>
</tr>
</tbody>
</table>

Total Phase II costs = USD1,9Billion