



21CPP Webcast

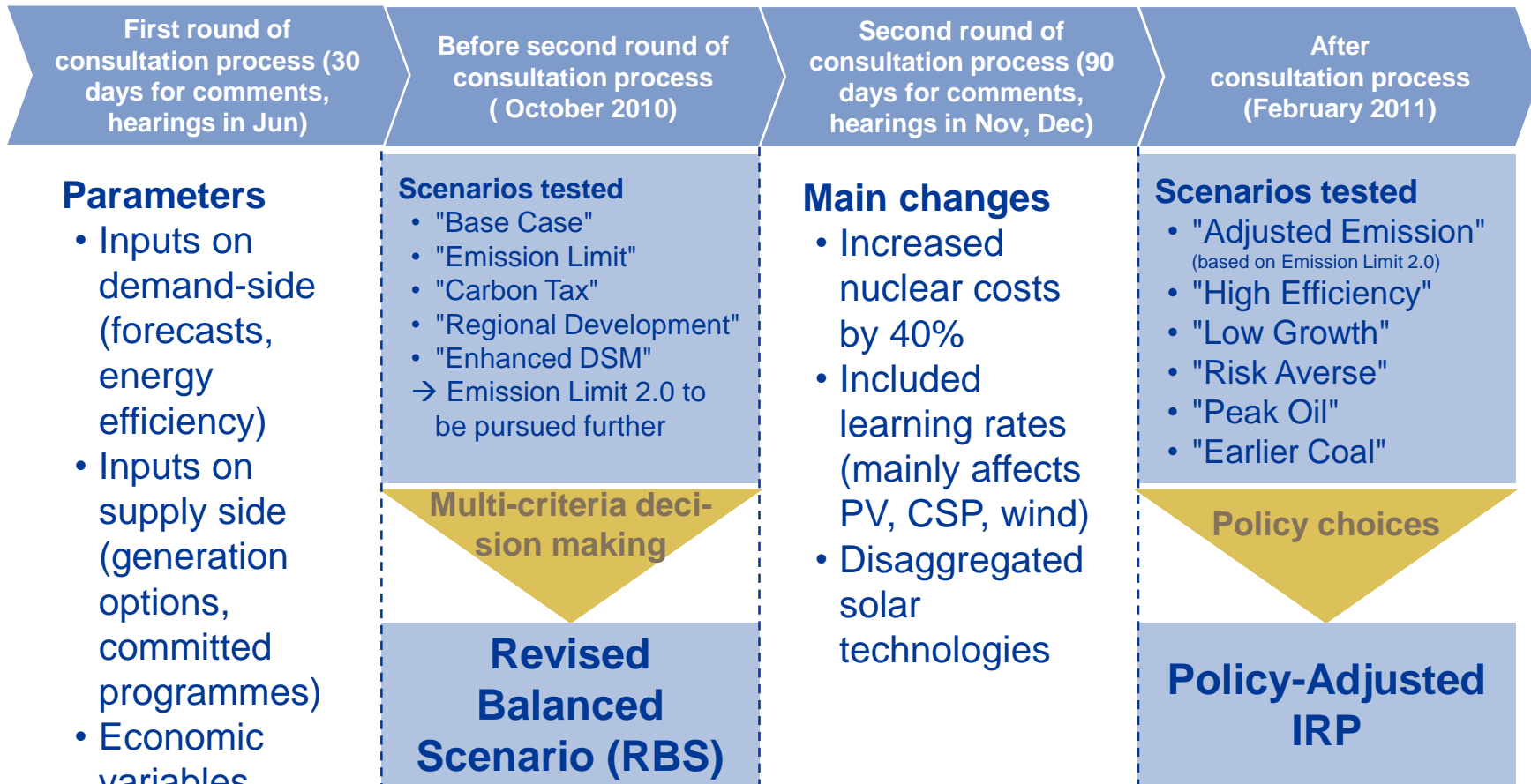
South African Electricity Supply Industry – overview and recent developments

Barry MacColl
General Manager

- Keeping the lights on – powering the economy
- Security of supply for a growing economy – since 1994 the economy has grown by 79% and the power capacity by <17%
- Reduction of Carbon footprint
- Energy Poverty and access – 3.5m gap
- Affordability and competitiveness – and protection of the poor
- Local environmental impacts – land, water, air quality
- System stability
- Financing and entry of new players (IPPs)
- Delivering on the Integrated Resource Plan (IRP)

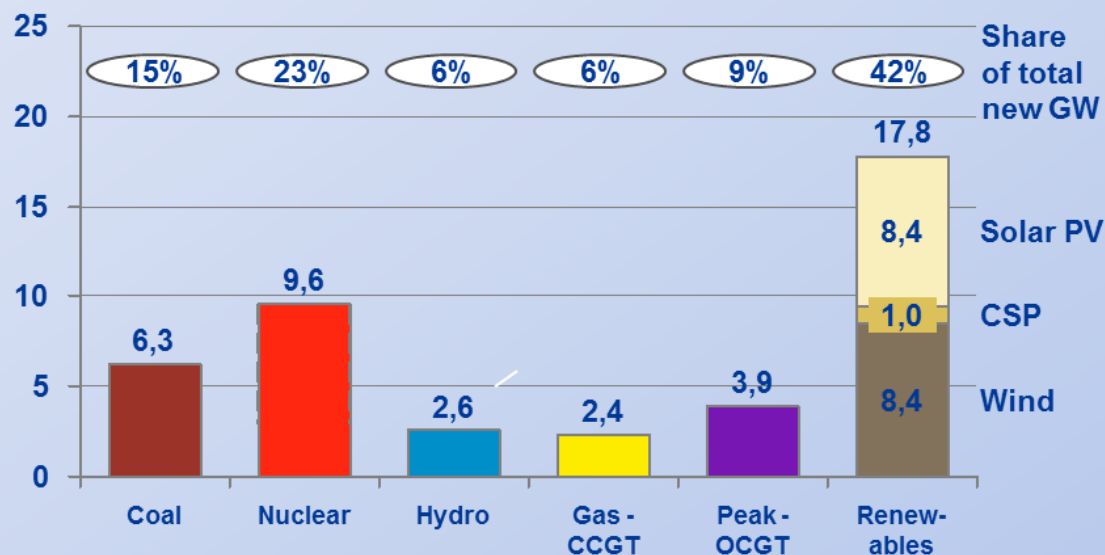
Integrated Resource Plan 2010

Consultation process and policy considerations



Policy-Adjusted IRP (Capacity)

Total additional new capacity
(without committed) until 2030 in GW



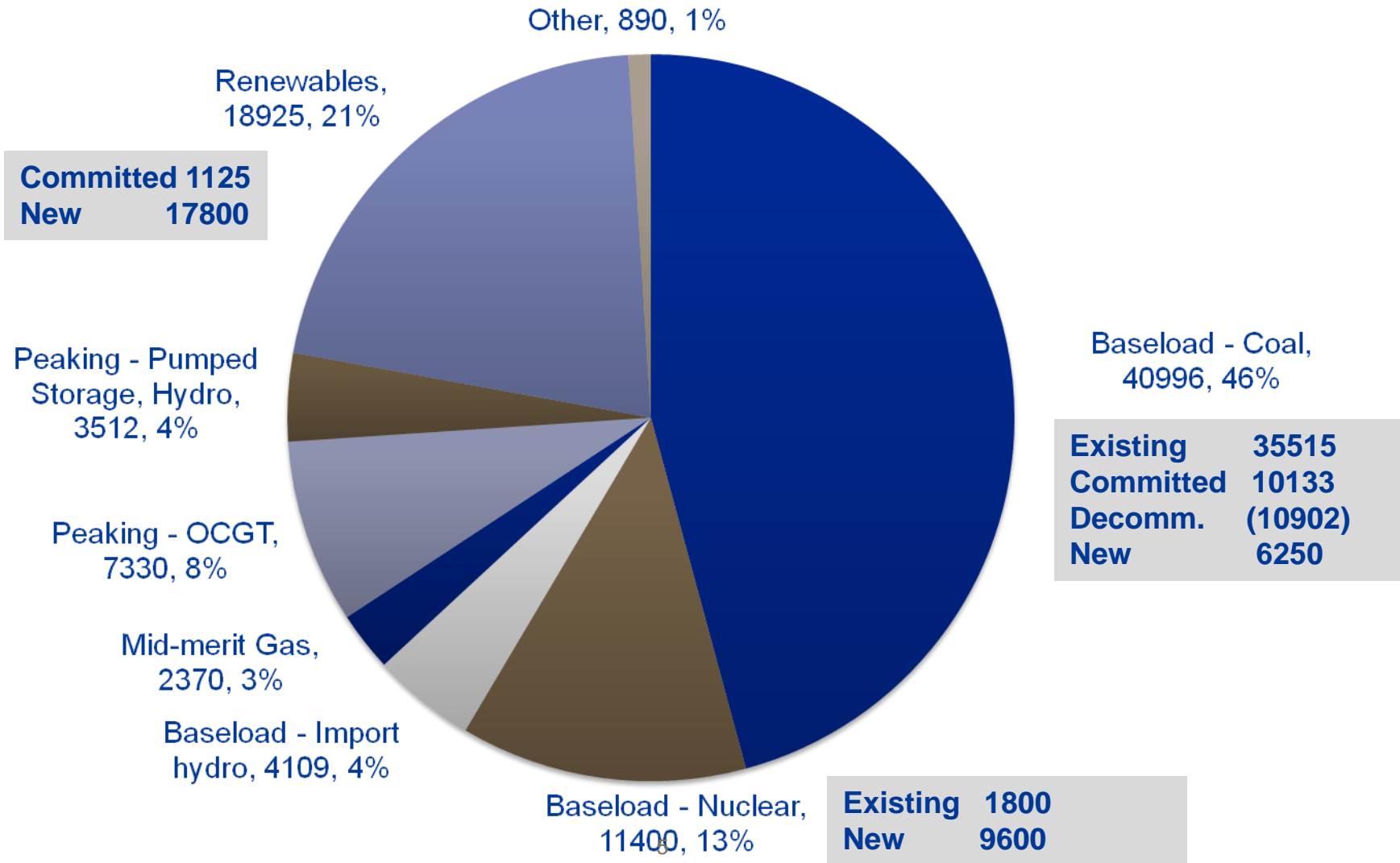
Energy share

in 2010 $\Sigma = 260$ TWh
in 2030 $\Sigma = 454$ TWh

Energy Source	2010 Share (%)	2030 Share (%)
Coal	90%	65%
Nuclear	5%	20%
Hydro	5%	5%
Gas - CCGT	0%	1%
Peak - OCGT	< 0,1%	< 0,1%
Renewables	0%	9%

Source IRP 2010

RSA Electricity capacity, 2030 (MW)



- The names of the 17 preferred bidders out of a total of 93 submissions in round three of the Renewable Energy Independent Power Producer Procurement (REIPPP) programme were announced earlier this year. This brings the total number of utility-scale renewable energy projects in progress to 64 with many window one projects in advanced stages of construction and a handful already feeding into the grid.
- The total megawatt value of bids submitted in window three amounted to 6 023 MW whilst the available allocation for this window was 1 473 MW. The round also saw aggressive price decreases across all the technologies with an average of 74 c/kWh achieved for wind down from 1.14 R/kWh in window one, 99 c/kWh for solar photovoltaic (PV) down from 2.75 R/kWh in window one and 1.64 R/kWh for concentrated solar power (CSP), down from 2.69 R/kWh in window one.
- Window three saw the addition of biomass (16 MW) and landfill gas (18 MW) projects to the REIPPP mix with the provinces of KwaZulu-Natal and Gauteng now boasting their entry into the REIPPP programme. Linear Fresnel CSP technology also makes its debut in the South African context.

REIPPP Megawatts to Date

The REIPPP programme first targeted 3 725MW of renewable energy power to be online by 2015. In December 2012, the DoE announced a further allocation of 3 200MW of renewable energy power to be online by 2020.

Source: DoE presentation

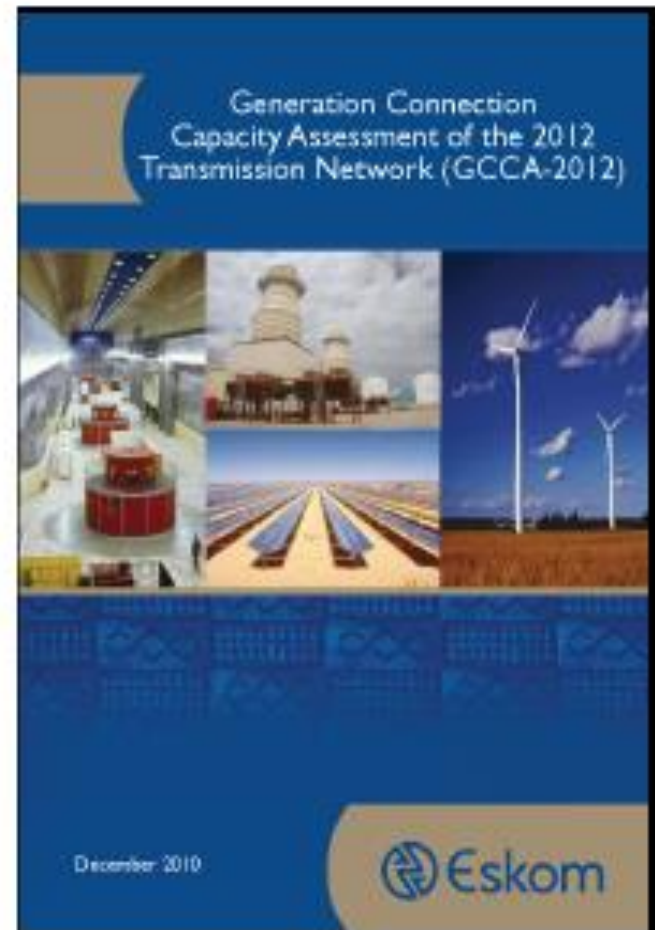
	MW in window 1	MW in window 2	MW in window 3	MW remaining
Solar PV	632	417	435	1 041
Wind	634	563	787	1 336
Concentrated Solar Power	150	50	200	200
Small Hydro (less than 40MW)	0	14	0	121
Landfill Gas	0	0	18	7
Biomass	0	0	16	43
Biogas	0	0	0	60
TOTALS	1 416	1 044	1 456	2 808

<http://www.energy.org.za/reipppp/78-reippp-window-three>

Access to GCCA report

Request for a GCCA-2012 document must be submitted as follows:

- Go to Eskom website
www.eskom.co.za
- Go to the following sub-sections:
“*Media room/Publications*” to find the “*GCCA Report*” option
- Complete the details as requested and submit to the email address
- Organisation / Entity will be entered in database
- Copies can be either sent electronically or posted (CD or book)
- Only one copy per organisation / entity

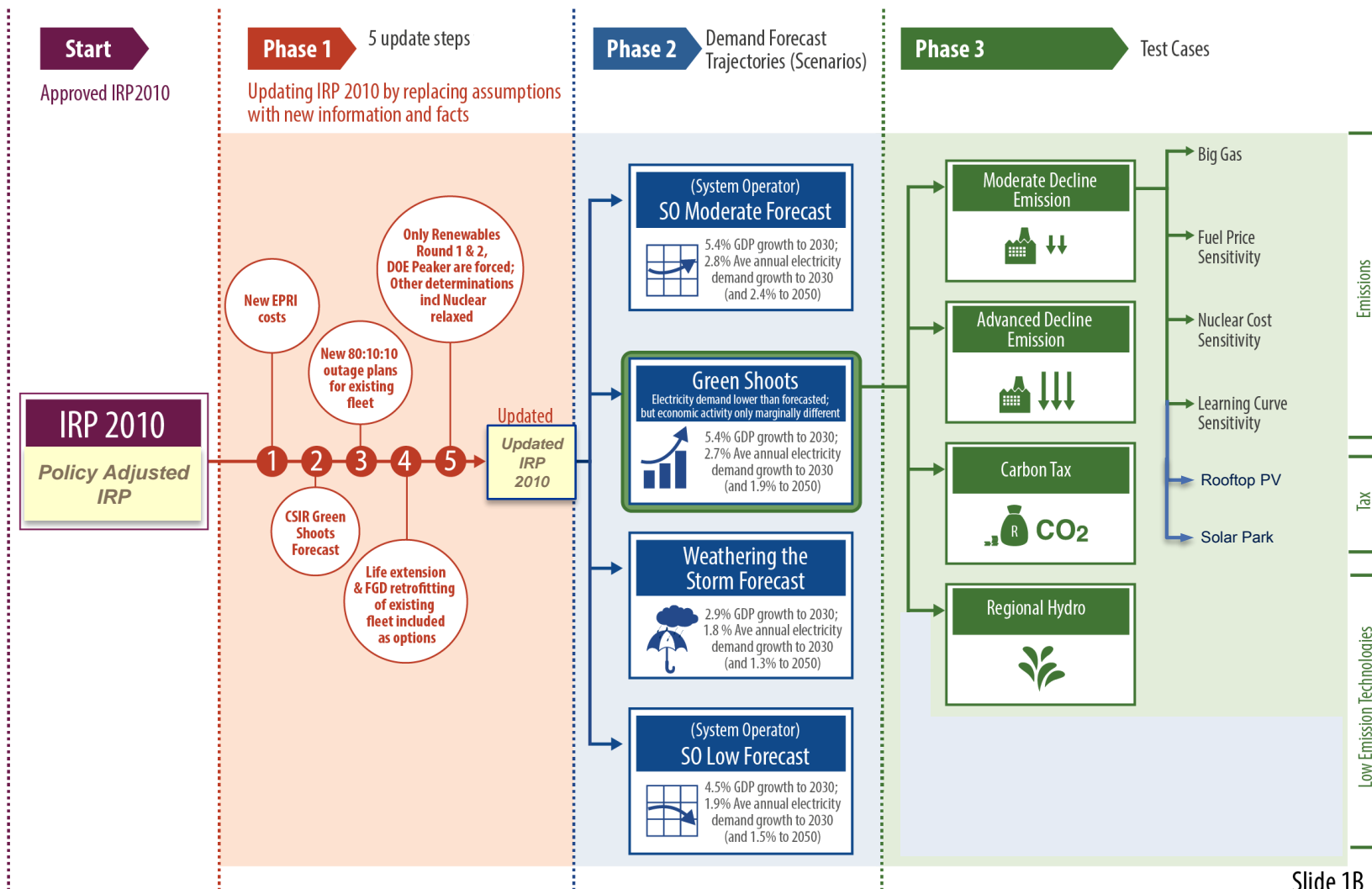




http://www.ee.co.za/wp-content/uploads/legacy/Energize_2013/03_iDn_summary-of-reipp.pdf

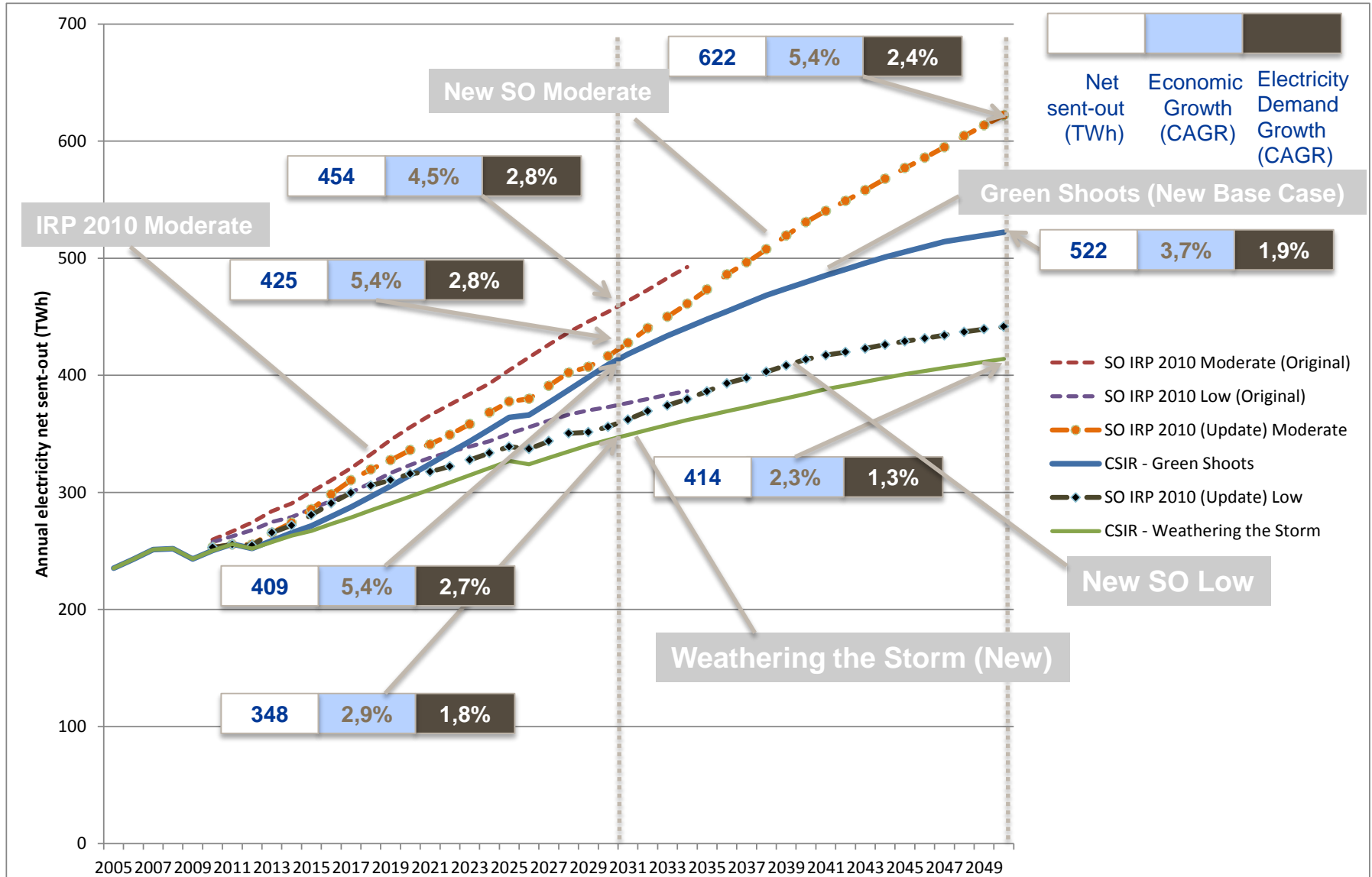
The Update process

IRP 2010 - THREE PHASE UPDATE PROCESS

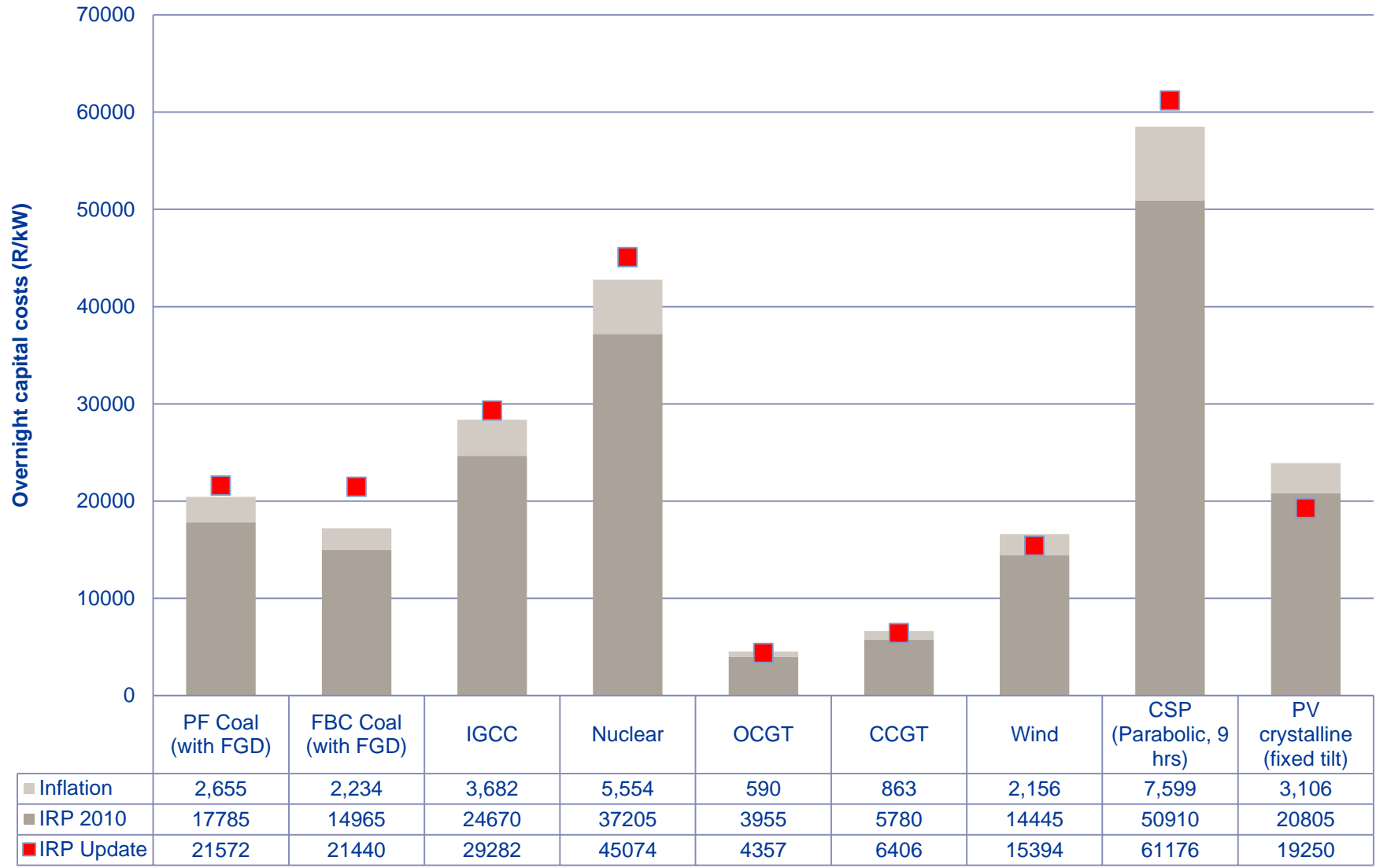


Slide 1B

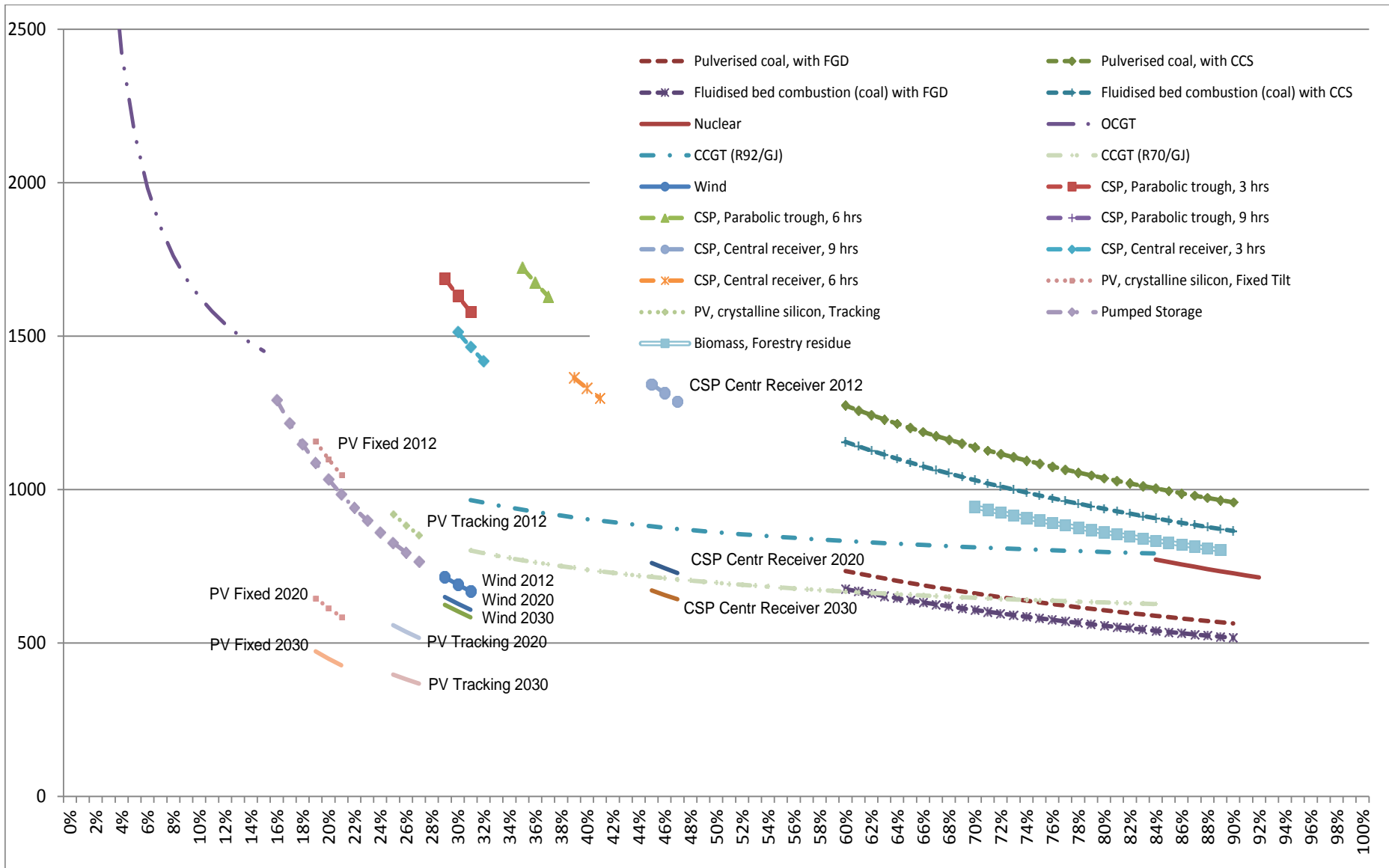
IRP Update Demand Projections



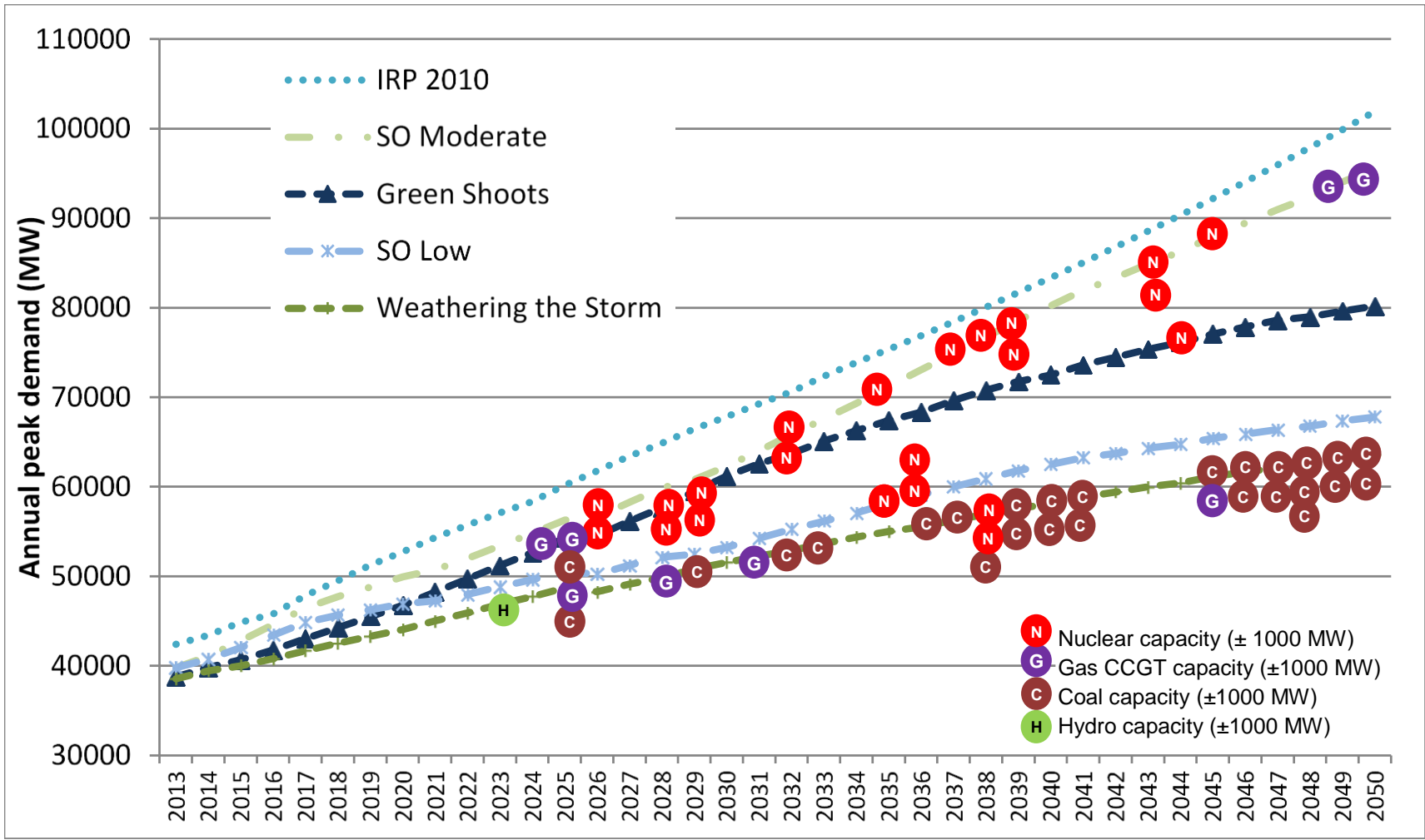
Update Technology Cost Assumptions



Costs: Technology choices

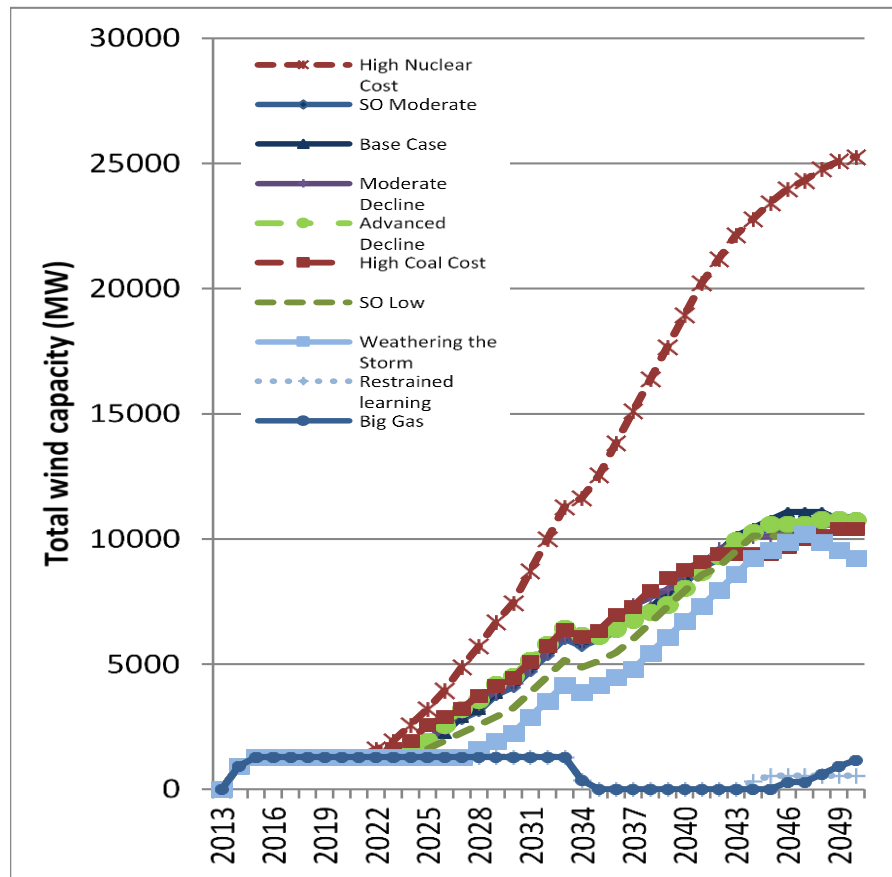


Peak demand paths indicating incremental large investment requirements

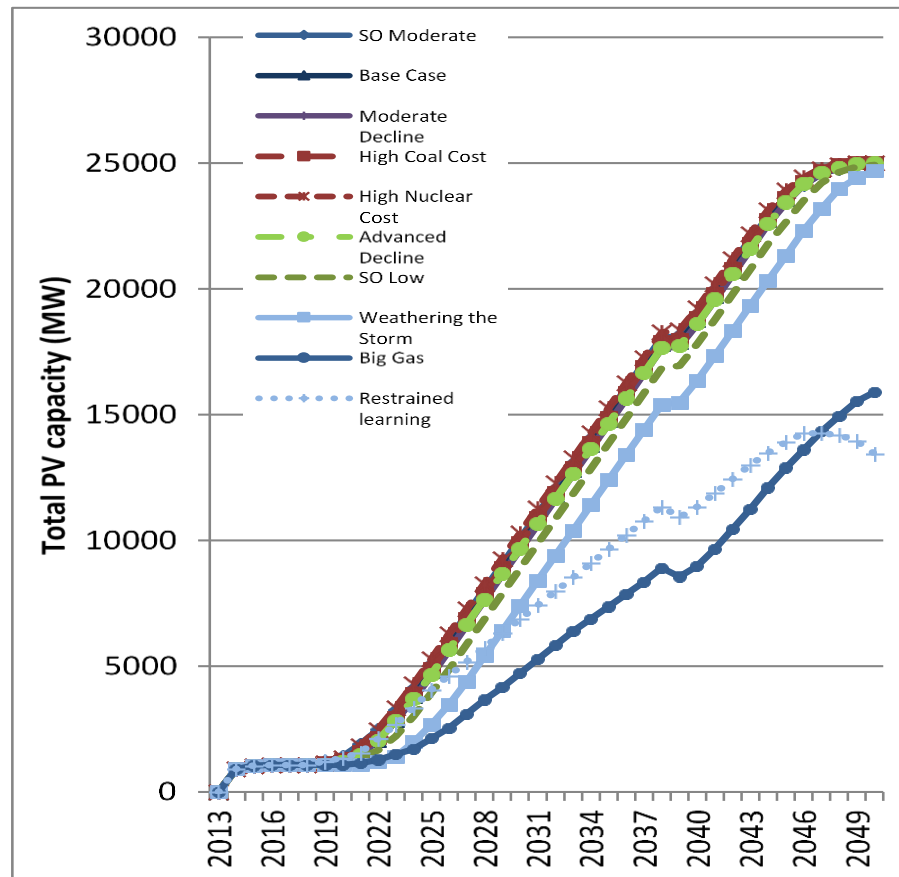


Wind and PV under different scenarios

Total wind capacity per scenario



Total PV capacity per scenario



- Continue with the current renewable bid programme with additional annual rounds (of 1000 MW PV capacity; 1000 MW wind capacity and 200 MW CSP capacity)
- Pursue small hydro and land-fill gas at competitive rates

A decorative graphic on the left side of the slide. It consists of two overlapping circular frames. The top frame shows an industrial power plant with a large cooling tower and various structures. The bottom frame shows two people, a man and a woman, sitting at a table and engaged in a discussion, with the man gesturing with his hands.

Recent Developments

The Government uses the term and establishes their own...



http://www.iol.co.za/business/companies/cabinet-sets-up-electricity-war-room-1,1/9419/

Cabinet sets up elec... Connective Manage...

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Cabinet sets up electricity 'war room'

December 11 2014 at 11:41am
By Reuters

Comment on this story

Pretoria - Cabinet has devised a five-point plan to deal with the electricity crisis and set up a "war room" to implement it. Minister in the Presidency Jeff Radebe announced on Thursday.

All attempts were being made to ensure the tight energy situation was overcome, he told journalists in Pretoria following Cabinet's regular Wednesday fortnightly meeting.

"A technical team war room for the implementation of the five-point plan is constituted with immediate effect."

Radebe said power utility Eskom would be signing a memorandum of understanding with the Strategic Fuel Fund and the Transnet Port Authority on Thursday to secure the diesel supplies needed for its operations.



(File photo) Jeff Radebe.

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The War Room mandate has been established as a response to the current electricity challenges faced by the country

Mandate

The War Room has a **mandate to work with government** in order to assist **Eskom to overcome its operational challenges** through the Cabinet-approved **five-point plan**. The elements of the five-point plan are as follows:

- Eskom emergency measures – 30 days
- Cogeneration
- Gas imports
- Coal independent power producers (IPPs)
- Demand-side management

Background

- On 10 December 2014, Cabinet approved a five-point plan to address the current electricity challenge.
- **Eskom welcomes government support** in dealing with the constrained power system challenges.
- Eskom was tasked with focusing on the following, subject to finances and governance processes:
 - Expediting the recovery programme at Majuba and Duvha and other repair work and reducing partial load losses
 - Improving the quality and effectiveness of maintenance
 - Expediting bringing the Medupi and Kusile units online
 - Improving the quality of coal to produce electricity
 - Securing funding to enable the use of the OCGTs during the remainder of the MYPD3 period, on the understanding that the OCGTs are used as a last resort to avoid load shedding
 - A plan to identify potential savings in the procurement of diesel
 - Renewal of the existing cogeneration contracts
 - Obtaining additional cogeneration capacity
 - Renewal of the existing demand market participation contracts
 - Pursuing additional demand-reduction mechanisms, including power buy-backs

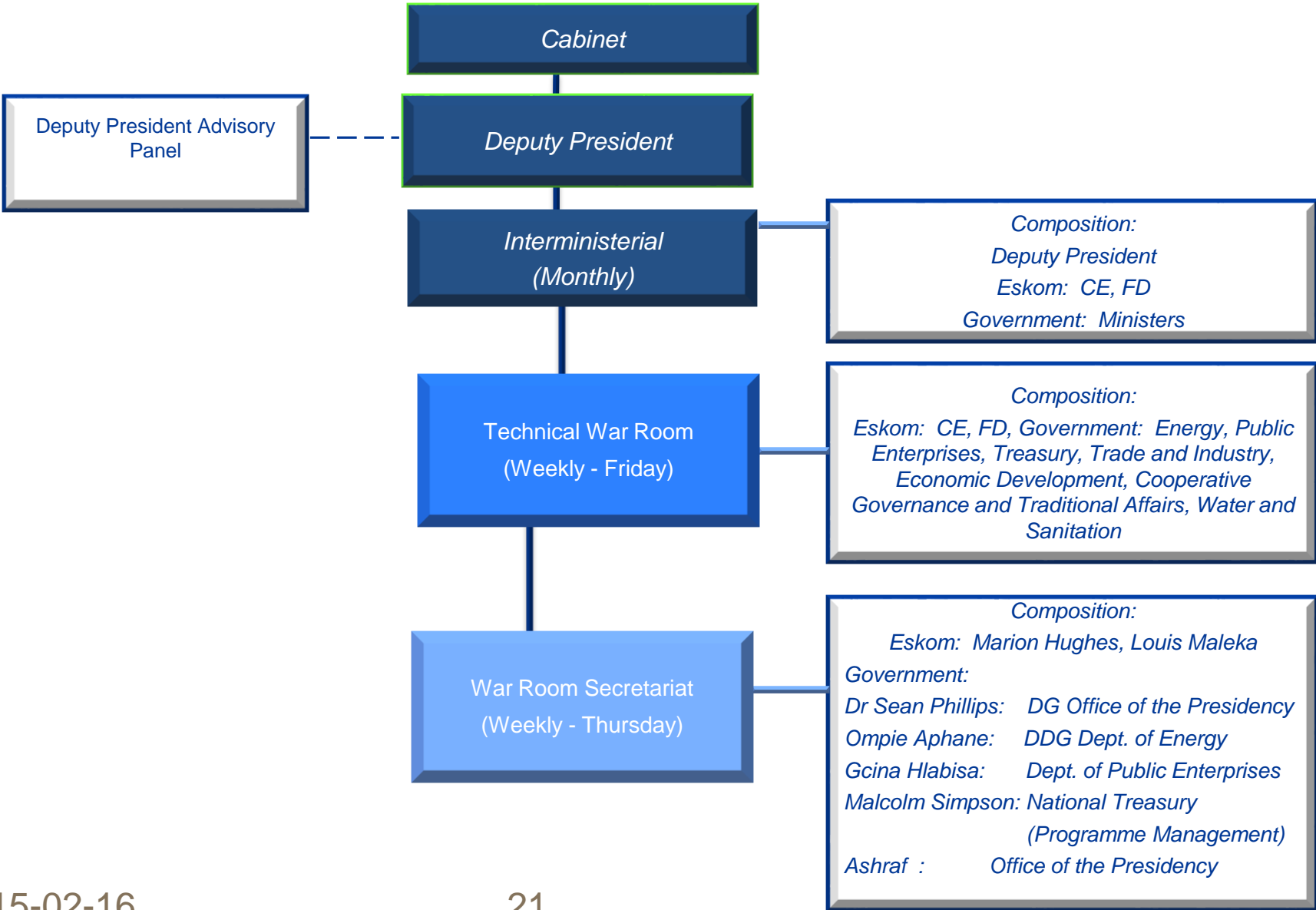


The five-point action plan approved by Cabinet (December 2014) is as follows:

- 1. Immediate measures (improve maintenance and operational practices)**
- 2. Cogeneration**
- 3. Gas for power generation and additional sources of supply**
- 4. Other independent power producers (IPPs)**
- 5. Demand-side management**

Other focus areas include financial and procurement issues, skills development, regulatory issues, long-term issues with short-term implications (for example, energy mix), and communications.

Government's War Room structures

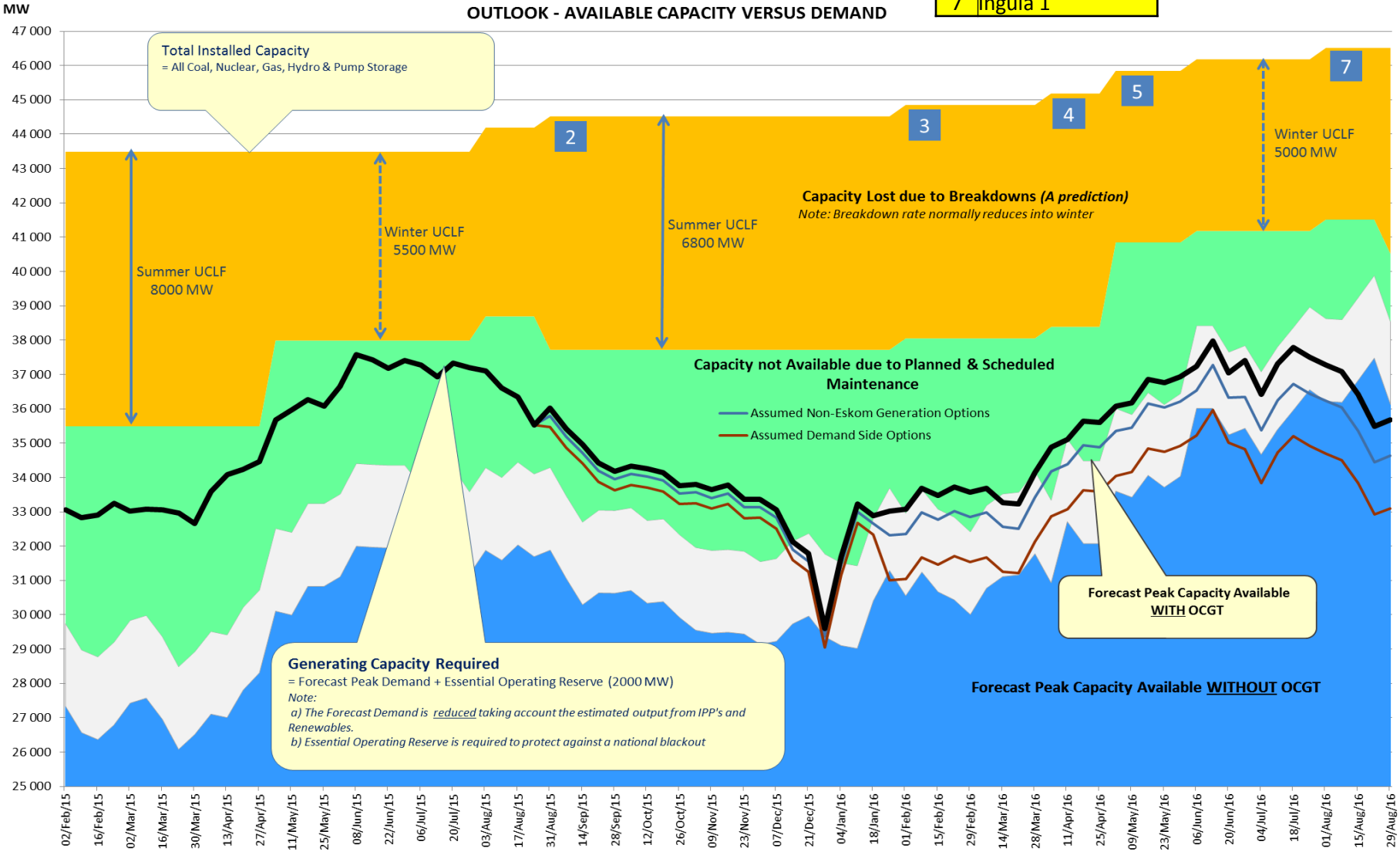


Shortfall in supply to meet demand

We are at war – little wriggle room and system under threat



1	Medupi 6
2	Dedisa DoE Peaker
3	Ingula 3
4	Avon DoE Peaker
5	Ingula 4
6	Ingula 2
7	Ingula 1



- *Objective of the RFI*

- The objective of this RFI is to gather information on the potential for more and innovative demand reduction/shifting and/or supply initiatives. The immediate focus is on rapid implementation of “demand response” capabilities. The national medium to longer term objective is to have available a range of supply/demand options that will ensure a “more economic grid” and consequently assist in containing electricity prices whilst ensuring security of supply.
- This RFI is a stand-alone information-gathering and market-testing exercise to solicit information from providers of demand response and/or distributed generation solutions (the “Respondent”) and is intended to inform and assist the IPP Office with further deliberation and development of a national demand response strategy.

Issued to

Interested parties for the purpose of expressing an interest in participating in the development of strategies for demand response and/ or distributed generation initiatives by the Department of Energy

DECEMBER 2014

Responses are due on or before 17h00 on Monday, 2 February 2015.



Consultation Paper

Small-Scale Embedded Generation: Regulatory Rules

PUBLISHED ON 25 FEBRUARY 2015

Issued by

The National Energy Regulator
526 Madiba Street
Arcadia, Pretoria
0007

<http://www.nersa.org.za/Admin/Document/Editor/file/Consultation%20Paper%20on%20Small%20Scale%20Embedded%20Generation.pdf>



THANK YOU

Barry MacColl
General Manager – Research, Testing & Development
Eskom

Email barry.maccoll@eskom.co.za