



USAID
FROM THE AMERICAN PEOPLE



ACEF Deep Dive Workshop

5 – 8 July 2017
Manila, Philippines



USAID
FROM THE AMERICAN PEOPLE



Our journey

- Our challenge
- Addressing the Gaps
- Legislative mandate
- Identifying the blockages
- Roles and Responsibilities
- Integrated Resource Plan
- Procurement Process
- Plan and Implementation
- Lessons Learnt
- Challenges



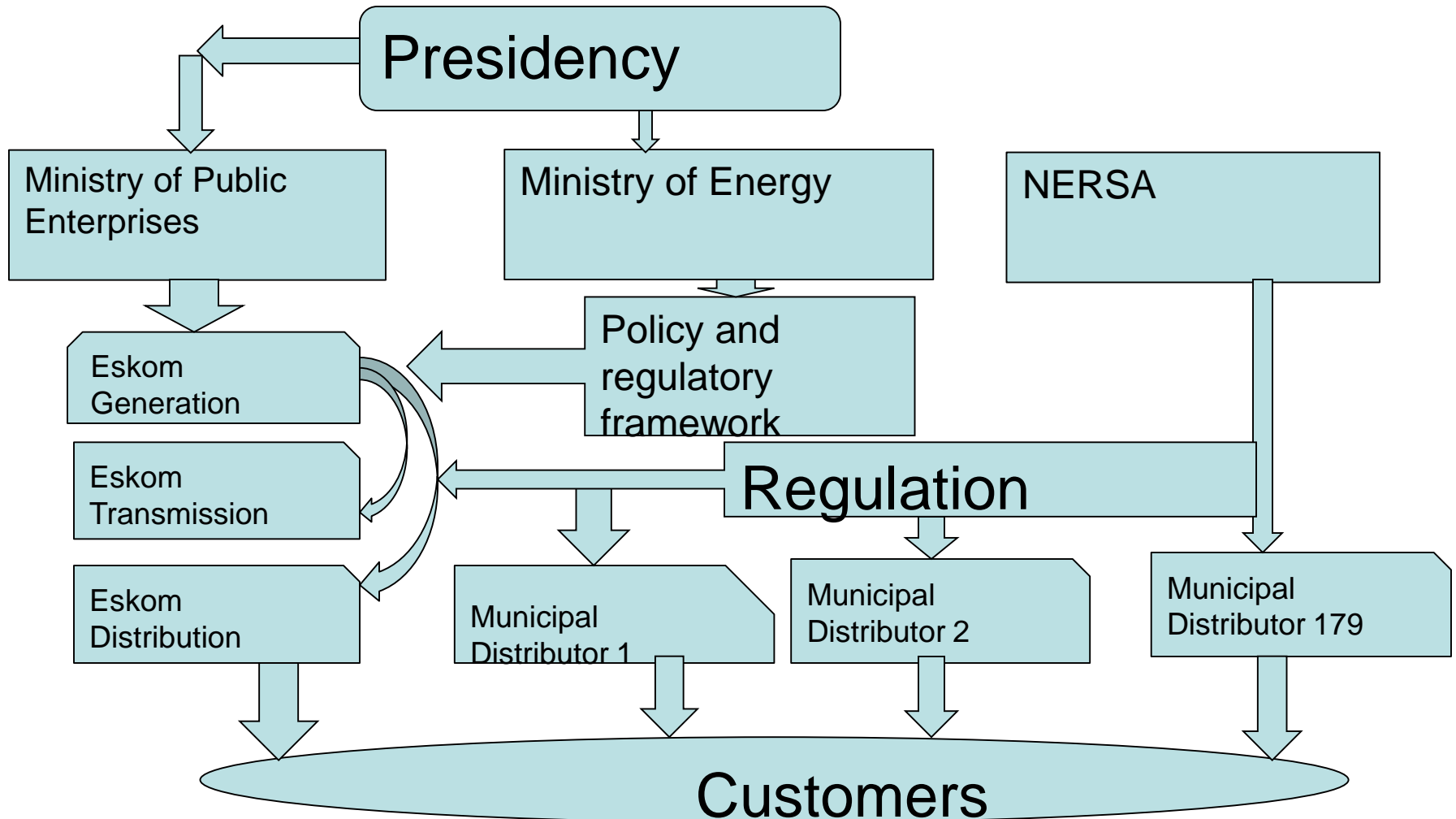
USAID
FROM THE AMERICAN PEOPLE

Our challenge

- Energy shortage
- Inter Ministerial Committee on Energy
- Inter Departmental Task Team on Energy
 - Energy, Environmental and Water Affairs, Finance, Public Enterprises, Presidency
- Government, Organised Labour and Civil Society signed a Green Economy Accord



Structure of the electricity market in South Africa





USAID
FROM THE AMERICAN PEOPLE

Addressing the Gaps

- Identify the blockages of private sector participation in the electricity generation market
- Remove blockages
- Enable private sector participation



USAID
FROM THE AMERICAN PEOPLE

Legislative environment

- Energy Legislation
 - Minister of Energy
 - Regulations
 - National Energy Regulator of South Africa
 - Rules of the game
- Public Procurement
 - Minister of Energy
 - Determination of the buyer and the seller
 - Minister of Finance
 - Preferential Procurement
 - Sovereign Support
 - Public Private Partnerships



USAID
FROM THE AMERICAN PEOPLE

Identified blockages

- Institutional environment and decision making
 - The lack of an independent buyer and procurement system
 - Lack of equitable access to the transmission network
- Gaps in the regulatory environment
 - Rules for Power Purchase Cost Recovery
 - Rules on the selection criteria for renewable energy projects under REFIT Programme
 - Grid code to ensure transparent and equitable access to the grid
 - Licensing regime
 - Electricity New Generation Capacity



USAID
FROM THE AMERICAN PEOPLE

Identifying blockages cont./

- Lack of bankable project documentation in the form of:
 - Power Purchase Agreement
 - Transmission and connection agreement
- Lack of clarity regarding Government support package to be provided
- Skills gap
- National utility's role – renewable energy provider and procurer of IPP's



USAID
FROM THE AMERICAN PEOPLE

Roles and responsibilities

- Department of Energy as owner and sponsor of policy related to energy sector and IPP projects
 - Plan for energy security
 - Identify suitable interventions and IPP projects
 - Evaluate bids, appointment of successful bidders and subsequent management of IPP projects
 - Procure transaction advisors of market development and project development intervention
 - Provide management and support to ensure a direct communication link with the Accounting Officer for efficient and effective decision making
 - Ensure compliance with legislative and regulatory framework governing the IPP's



USAID
FROM THE AMERICAN PEOPLE

Roles and responsibilities cont./

- National Treasury serving in a supporting role and in its capacity as a custodian of the fiscus:
 - Facilitate a coordinated support from NT for each intervention
 - Provide expert advice on financial aspects of IPP's
 - Facilitate the National Treasury views and recommendations in terms of relevant regulations and guidelines
 - Ensure that the Development Bank of Southern Africa (DBSA) provides the necessary financial support to the IPP programme
 - Through the Project Development Facility, provide funds for expenditure incurred by DBSA



USAID
FROM THE AMERICAN PEOPLE

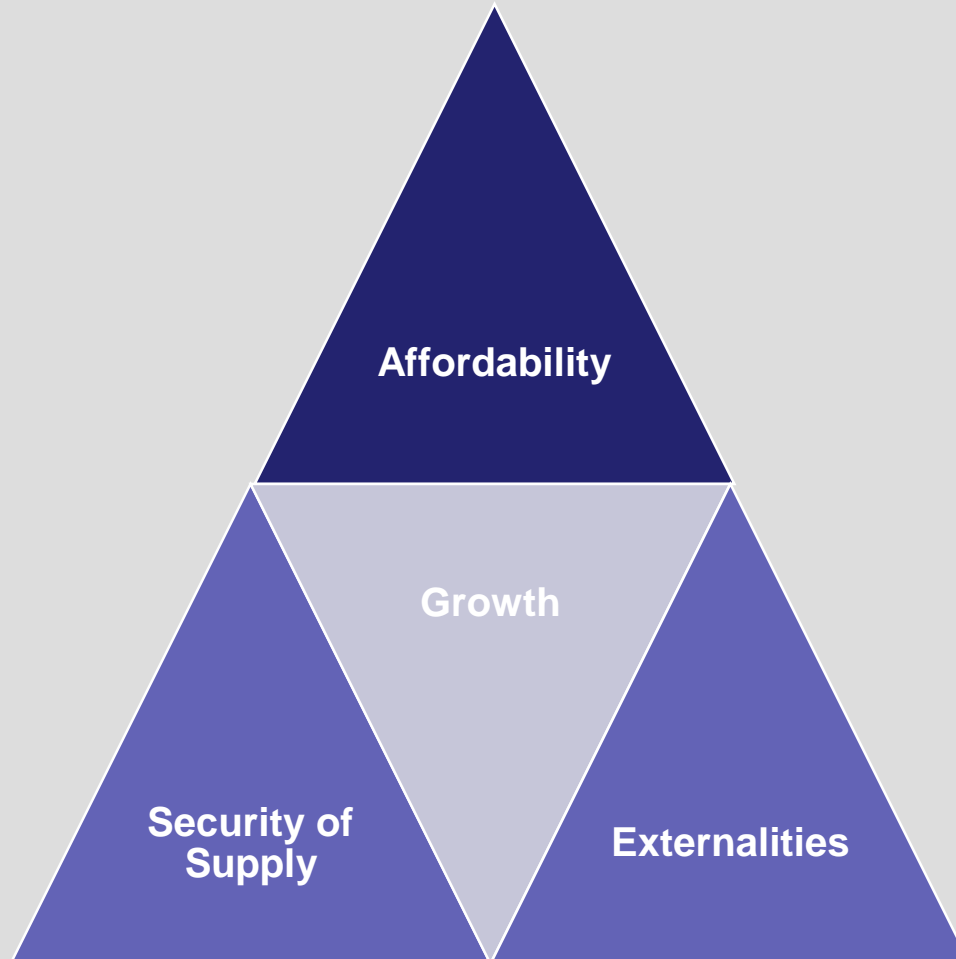
Roles and responsibilities

- DBSA generally serving in an implementation facilitation role:
 - Appoint and provide support to the project manager (Head of the IPP Office)
 - Establish, maintain and manage a fully functioning project office dedicated to the IPP projects
 - Ensure compliance with DBSA's procurement policy when appointing transaction advisors and control the costs
 - Provide support on all aspects of the IPP projects in particular with regards to funding structure
 - Provide support in respect of contract management from financial close to technical and financial completion



USAID
FROM THE AMERICAN PEOPLE

Supply and Demand Projection



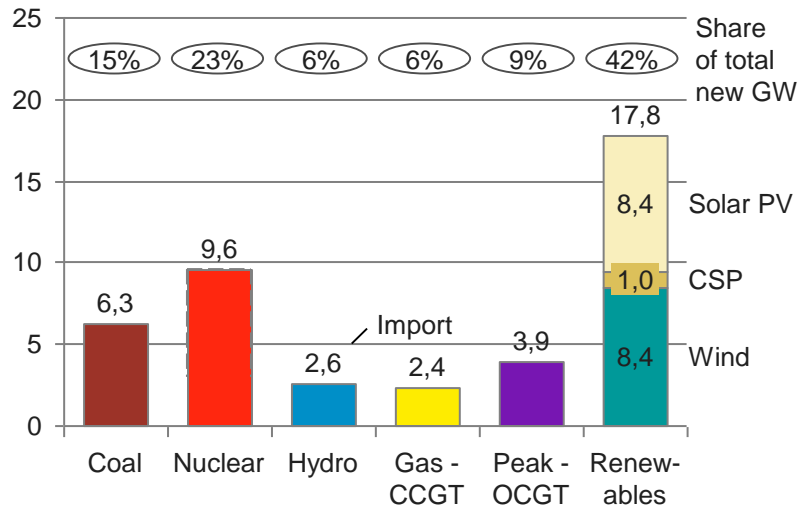
- The Supply and Demand projection must balance economic, social and environmental objectives
- It should provide affordable energy,
- while ensuring security of supply,
- providing opportunities for creation of local industry clusters,
- Low carbon trajectory



USAID
FROM THE AMERICAN PEOPLE

Integrated Resource Plan

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



Committed new builds

Coal	Nuclear	Hydro	Gas - CCGT	Peak - OCGT	Renewables
10,1	0,0	0,05	0,0	1,0	1,0

Existing fleet (2010)

Coal	Nuclear	Hydro	Gas - CCGT	Peak - OCGT	Renewables
35,5	1,8	2,1	0,0	2,4	0,0

Energy share		$\Sigma =$	Energy Source					
			Coal	Nuclear	Hydro	Gas - CCGT	Peak - OCGT	Renewables
in 2010		260 TWh	90%	5%	5%	0%	< 0,1%	0%
			↓	↓	↓	↓	↓	↓
in 2030		454 TWh	65%	20%	5%	1%	< 0,1%	9%



Procurement documents

Request for Proposals

- Part A: General Requirements and Rules
- Part B: Qualification Criteria
- Part C: Economic Development

Power Purchase Agreement

- Contract between the IPP and the Seller
 - Wind PPA
 - Solar PPA
 - Landfill gas PPA
 - CSP PPA
 - Biomass PPA

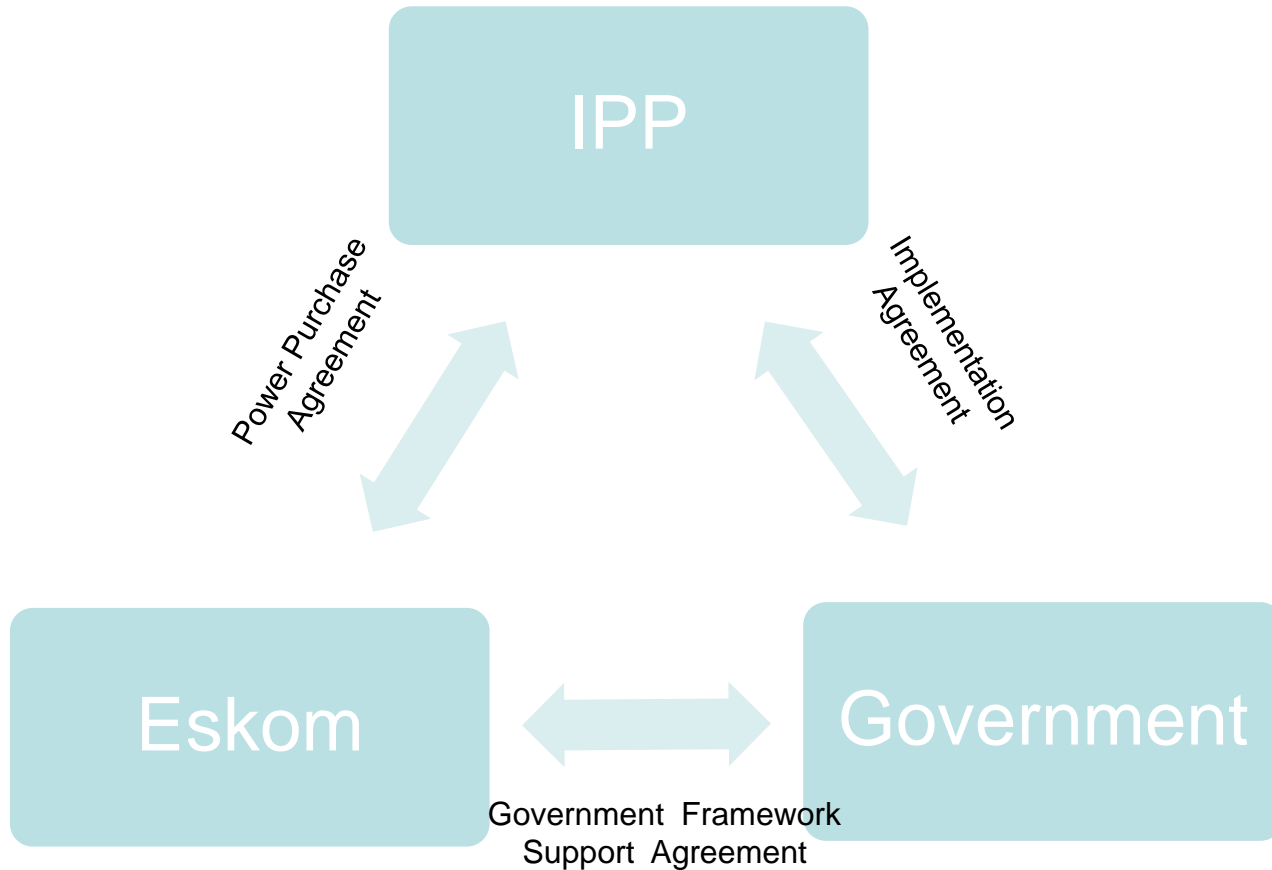
To be concluded in respect of all projects

Implementation Agreement

- Contract between the IPP and the Department of Energy
- Obligation for IPP to deliver on economic development obligations
- On buyer default – Department of Energy to pay the IPP



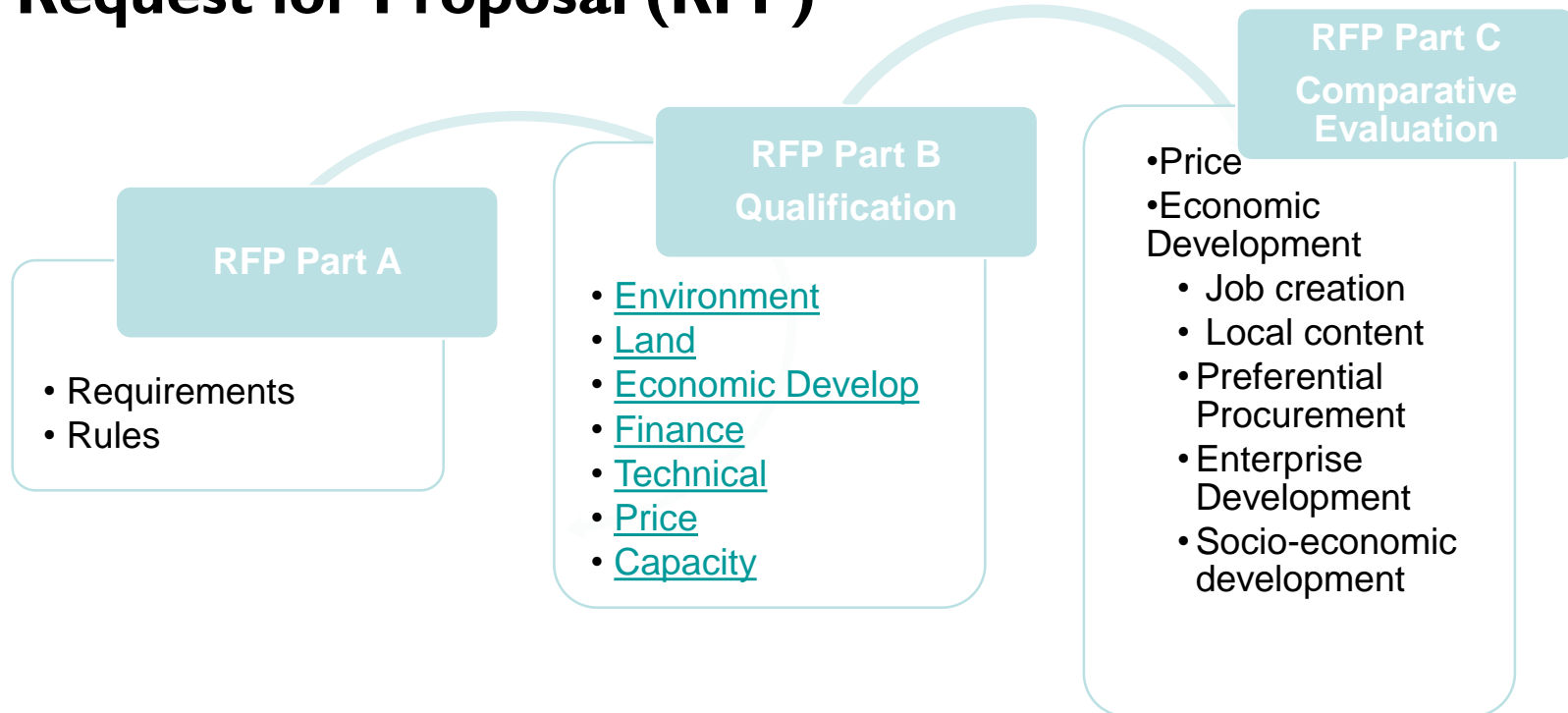
Contractual Arrangement





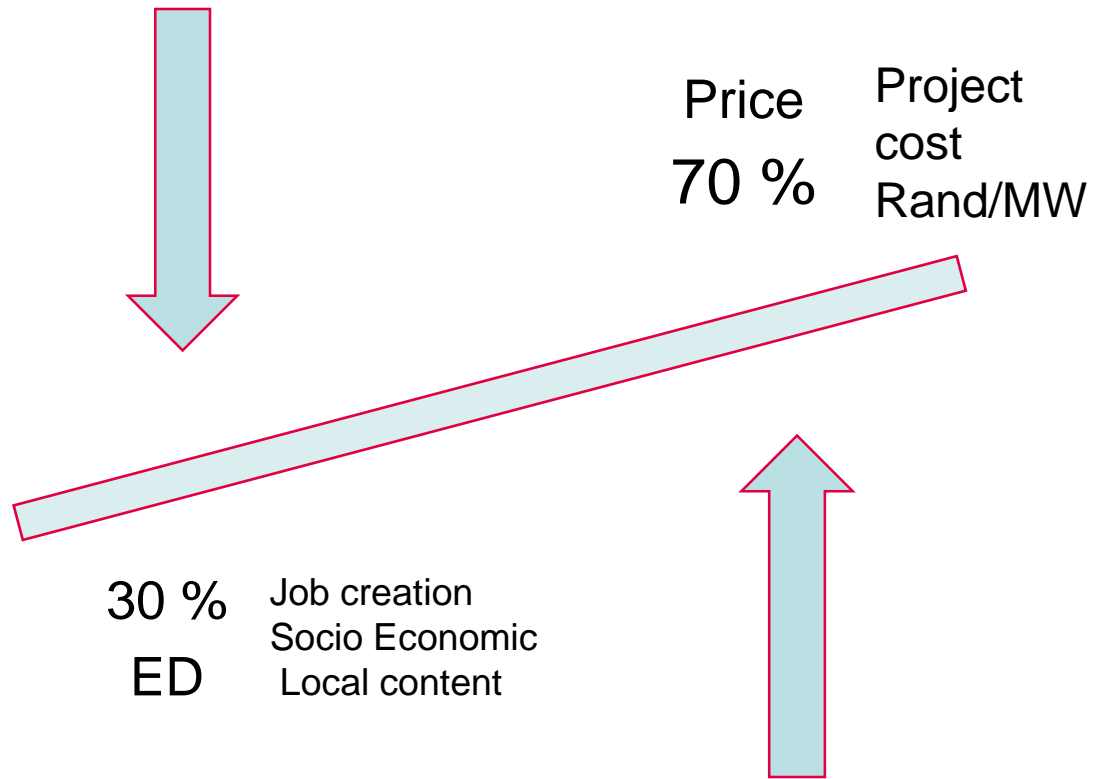
Procurement Process

Request for Proposal (RFP)





Part C evaluation





Evaluation team:

- Independent reviewers
 - Legal review – Linklaters (UK)
 - Technical review – Tony Wheeler/ Blueprint consult
 - Financial review – Pieter van Huyssteen
 - Governance review – EY
- Legal evaluation team
 - Bowman Gilfillan
 - Edward Nathan Sonnenbergs
 - Ledwaba Mazwai
 - Webber Wentzel
- Technical evaluation team
 - Mott Macdonald
- Financial evaluation team
 - EY
 - PWC

Evaluation Streams:

- Legal Environment
 - Environmental Authorization
- Legal Land
 - Land rights
 - Notarial lease registration
 - Proof of land use application
- Legal Commercial
 - Acceptance of the PPA
 - Project structure
- Economic Development
 - Contributor status level
 - Compliance with thresholds
- Financial
 - Full and partial price indexation
 - Financial proposal
- Technical
 - Eligibility
 - Energy resource
 - Technical prowess

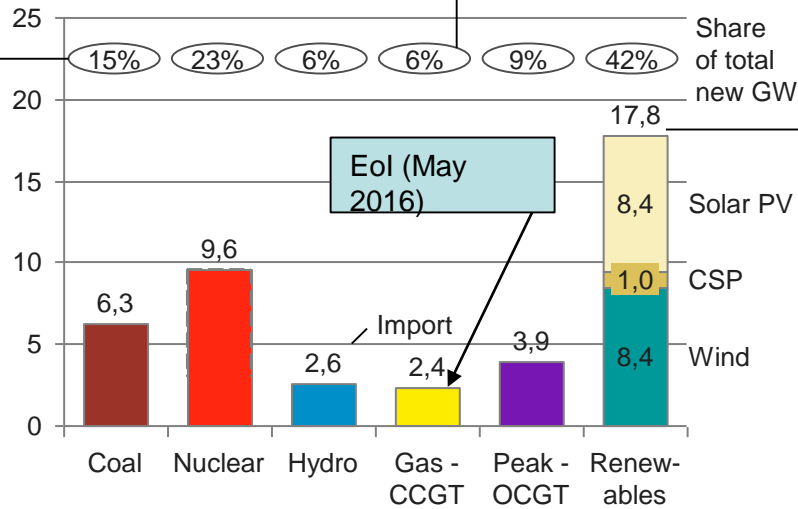


USAID Plan and implementation

Coal Base Load
(25/5/12)

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

MTRM
(19/12/12)



- On shore wind
 - CSP
 - Solar PV
 - Small hydro
 - Biomass
 - Biogas
 - Landfill
-
- Small IPP
 - 1/8/11
 - 19/12/12
 - 18/8/15

	Coal	Nuclear	Hydro	Gas - CCGT	Peak - OCGT	Renewables
Committed new builds	10,1	0,0	0,05	0,0	1,0	1,0
Existing fleet (2010)	35,5	1,8	2,1	0,0	2,4	0,0

Energy share	in 2010						
	$\Sigma = 260$ TWh	90%	5%	5%	0%	< 0,1%	0%
		↓	↓	↓	↓	↓	↓
	in 2030						
	$\Sigma = 454$ TWh	65%	20%	5%	1%	< 0,1%	9%



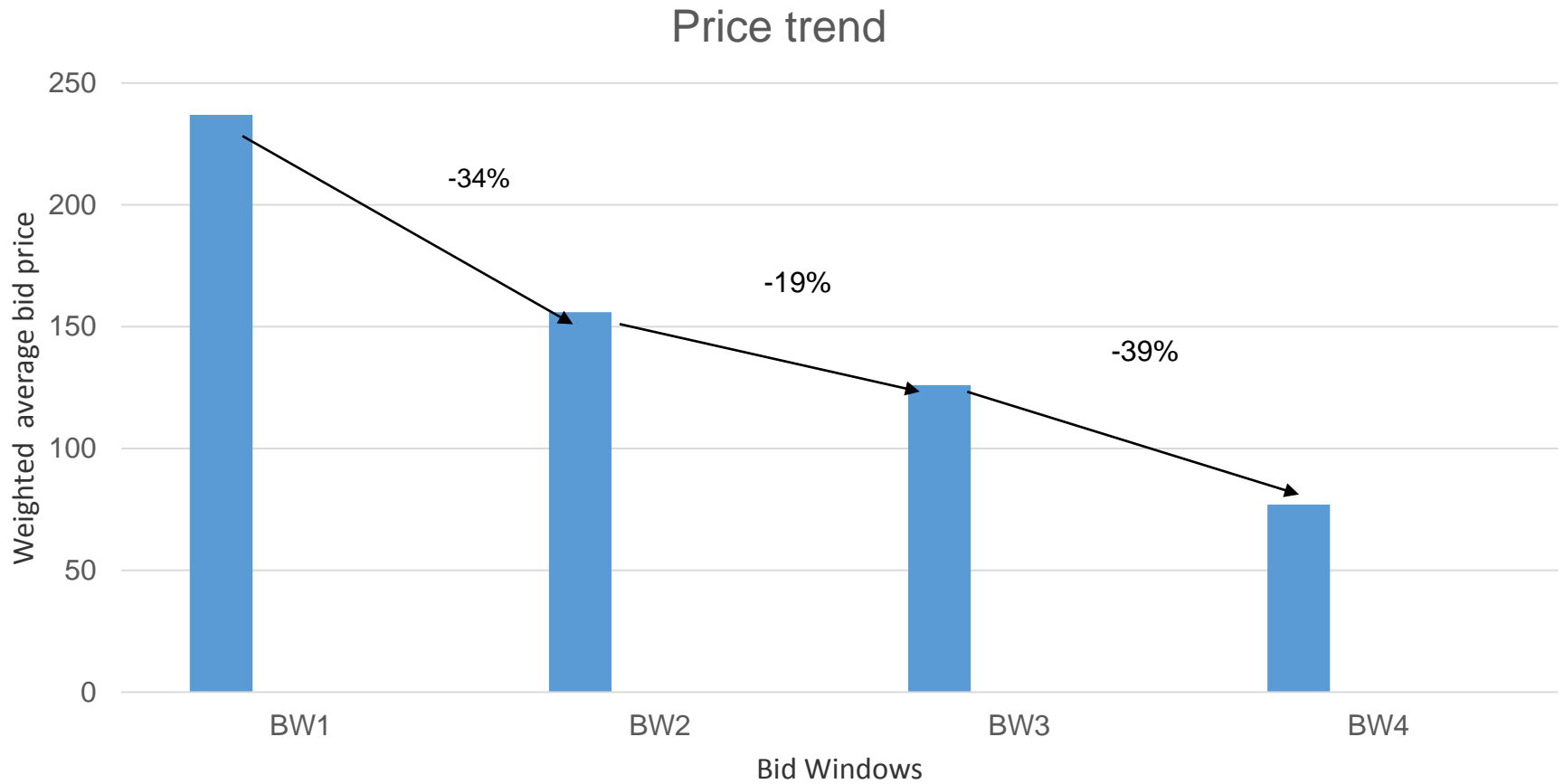
USAID
FROM THE AMERICAN PEOPLE

Progress at a glance

Carrier (Capacity determined)	Master planning	Project preparation	RFP	Bid submission	Bid announcement	Financial close	COD
Coal (2 500 MW) – Local and Cross Border	IRP	Completed	15 Dec 2014	Nov 2015	Q2 2016/17	Q2 2017/18	2021 onward
Cogen (1 800 MW)	IRP	Completed	4 June 2015	1a – 11 Aug 2015; 1b – 9 Sept 2015; 1c – Q3 2016/17	1a – 15 Dec 2015 1b – Q3 2016/17 ⁴ 1c – Q4 2016 /17	1a – Q2 2016/17 1b – Q1 2017/18 1c – Q3 2017/18	1a – Q4 2016, 1b – Q4 2017, 1c – Q3 2018,
Floating Power Plants	August 2015	Document preparation	1 st draft RFP completed	Project currently on hold			
Imported Gas (3 000 MW)	Dec 2015²	Document preparation	RFQ – Q2 2016/17 RFP – Q4 2016/17	Q3 2017/18	Q4 2017/18	Q4 2018/19	First power 2021/22 - ongoing
Domestic and Piped Gas (126 MW)	Dec 2015^{2,6}	Document preparation	Q3 2016/17	Q1 2017/18	Q2 2017/18	Q1 2018/19	2018/19 - ongoing
Peakers (1 020 MW)	IRP	Completed	Completed	Completed	Completed	Sept 2013	30 Sept 2015 Sept 2016
Renewable energy (13 225 MW)							
Bid window 1 (1 423.80MW)	IRP	Completed	3 Aug 2011	4 Nov 2011	6 Dec 2011	5 Nov 2012	100% COD 100% GC ¹
Bid window 2 (1 043.86 MW)	IRP	Completed	3 Aug 2011	5 Mar 2012	21 May 2012	9 May 2013	78% COD 89% GC ¹
Bid window 3 (1 451.56MW)	IRP	Completed	3 May 2013	19 Aug 2013	29 Oct 2013	12 Dec 2015	0% COD 5.88% GC ¹
Bid window 3.5 (200 MW CSP)	IRP	Completed	-	31 Mar 2014	15 Dec 2014	Q1 2016/17	Q4 2018/19
Bid window 4 and 4 additional (2 205 MW)	IRP	Completed	26 May 2014	18 Aug 2014	16 Apr 2015	Q2 2016/17	Q2 2017/18 onwards
Bid window Expedited (1 800 MW)	IRP	Completed	25 Jun 2015	11 Nov 2015	Q2 2016/17	Q2 2017/18	Q1 2019/20 onwards
Bid window 5	IRP	Document preparation	Q2 2016/17	Q4 2016/17	Q2 2017/18	Q2 2018/19	Q4 2020/21 onwards
Small renewables First Stage Two (49 MW)	IRP	Completed	-	3 Nov 2014	4 Oct 2015	Q2 2016/17	Q4 2017/18
Small renewables Second Stage Two (51 MW)	IRP	Completed	18 Dec 2015	Q1 2016/17	Q3 2016/17	Q3 2017/18	Q4 2019/20
Small Renewables Bid Window 3 (100 MW)	IRP	Document preparation	Q2 2016/17	Q4 2016/17	Q2 2017/18	Q2 2018/19	Q4 2020/21 onwards



Portfolio price trend





USAID
FROM THE AMERICAN PEOPLE

Lessons learnt

- Clearly defined roles and responsibilities
- Collaborative and supportive culture
- Government support package
- Long term planning that outlines the pipeline of projects with clearly defined targets
- Bankable documents with an evaluation criteria
- Transparent, equitable, fair and auditable procurement process
- Extensive stakeholder engagement
- Well resourced team to evaluate the bids



USAID
FROM THE AMERICAN PEOPLE

Challenges

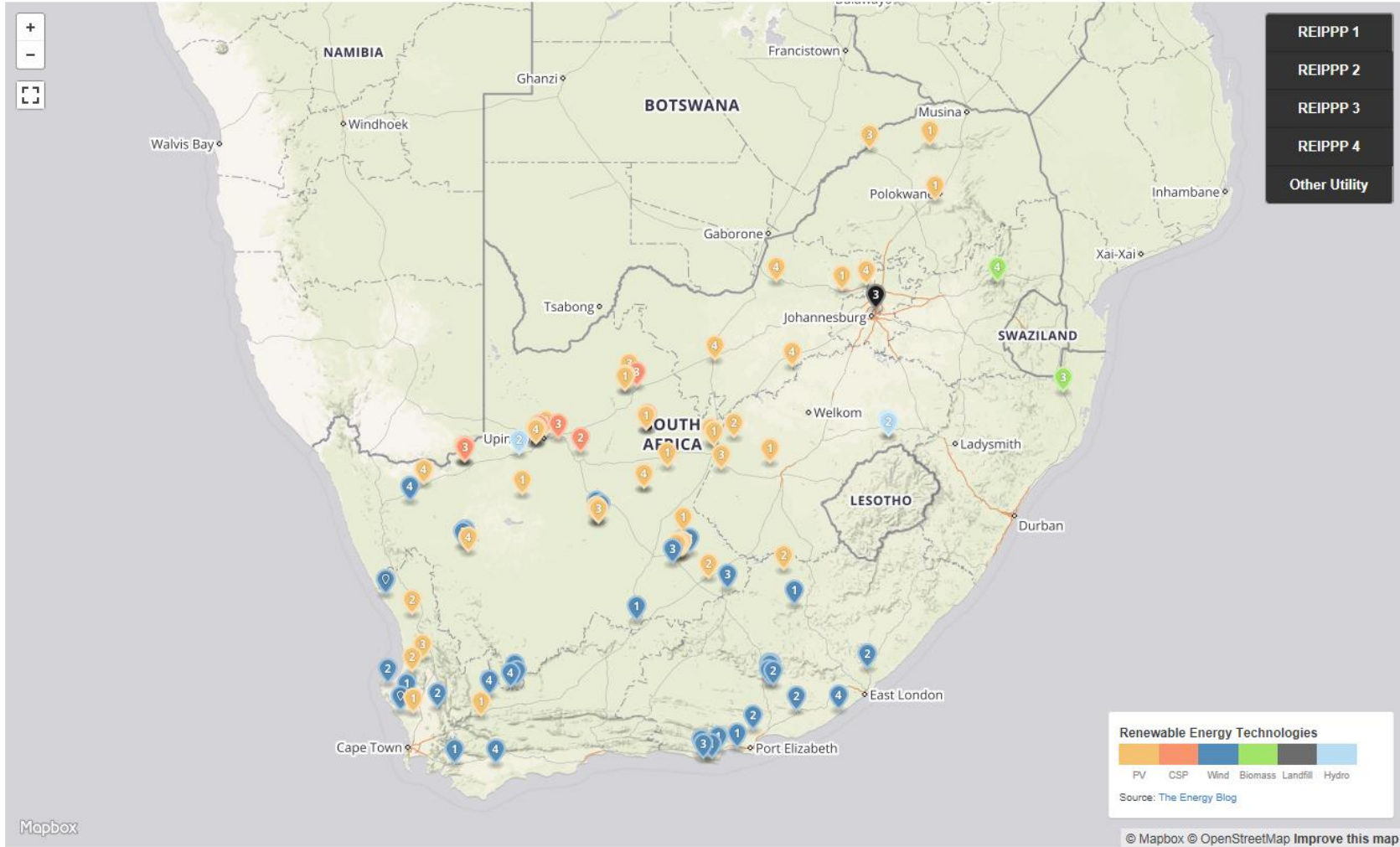
- Issues that has been raised in criticism of the programme:
 - The bidding process is too expensive
 - The content of the documents is too extensive and requires assistance of various professionals
 - The risk of identifying the sites is left to the developer, which might be a challenge in the case of grid constraints
 - While the programme has provided welcome foreign direct investments, the programme has failed to create local energy companies and industries
 - The coordination between Eskom and the IPP Office could be improved



USAID
FROM THE AMERICAN PEOPLE

•The context – REIPPPP spatial location

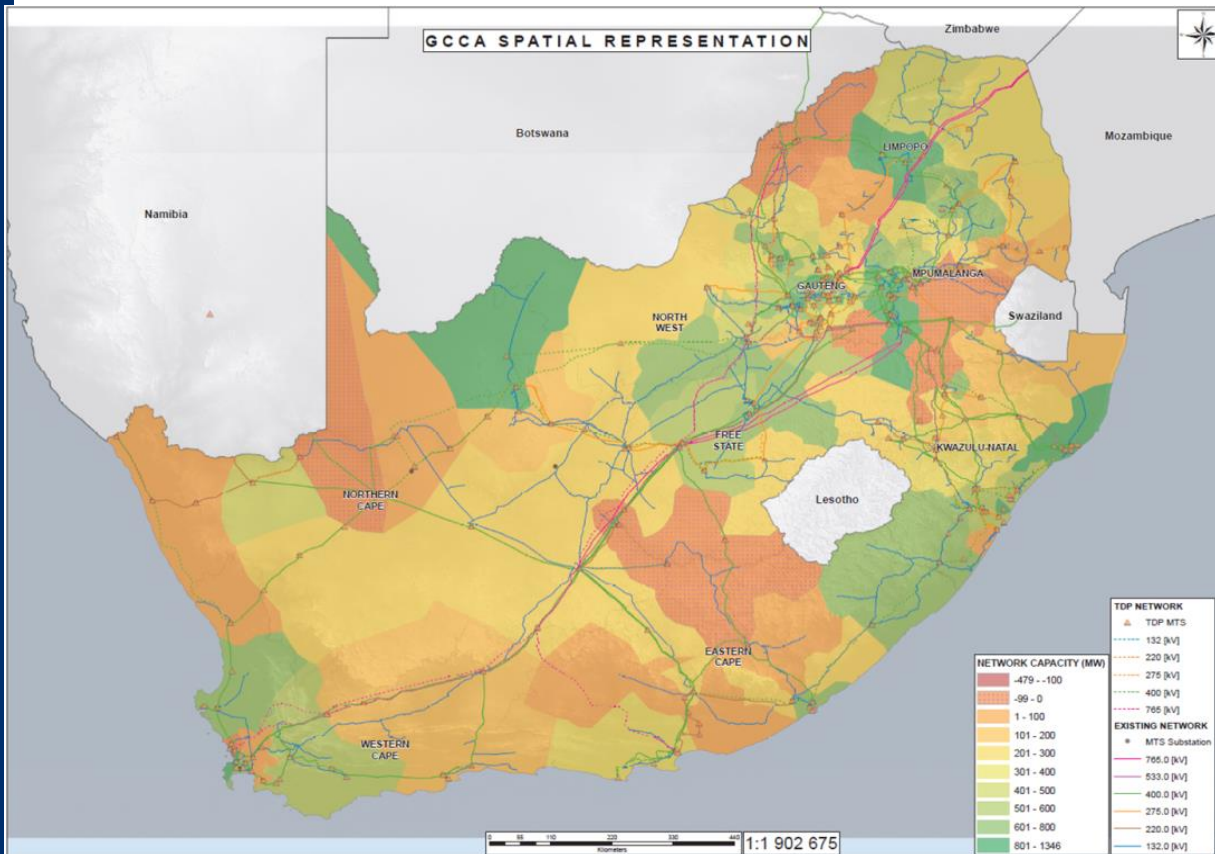
Utility-scale Renewable Energy Generation Sites - South Africa





USAID
FROM THE AMERICAN PEOPLE

•Transmission Grid Capacity 2016 Forecast without REIPPPP BW4



- Red: Already exceeding limits
- Orange and yellow: Limited capacity up to 400MW
- Green: Capacity in excess of 400MW
- Transmission Grid is constrained in parts of the country



USAID
FROM THE AMERICAN PEOPLE

A new dilemma – planning for transmission expansion

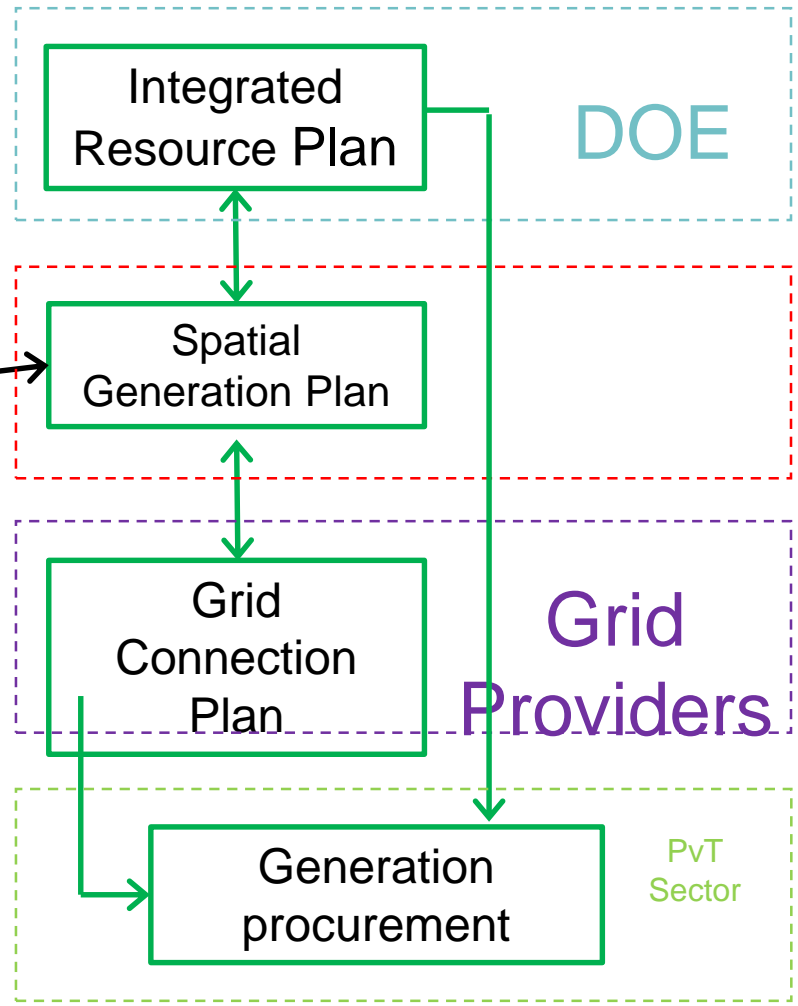
- Major transmission extension has a timeframe of between 6 to 10 years
- Utility scale renewable energy projects have a timeframe of between 3 to 4 years
- Inherent incompatibility in grid and generation timeframes (a new dilemma)
- Transmission grid extension must lead generation procurement
- Transmission investment requires reasonable certainty on the location of future generation (risk balancing)



USAID
FROM THE AMERICAN PEOPLE

•A Planning Challenge (RSA)

- Grid costs
- Resources (water, coal, wind, solar, biomass)
- Economic development priority areas
- Environmental sensitivity
- Drivers (transport, terrain)



MINIMISE TOTAL COST OF ELECTRICITY WHILE ALIGNING WITH NDP AND POLICY OBJECTIVES

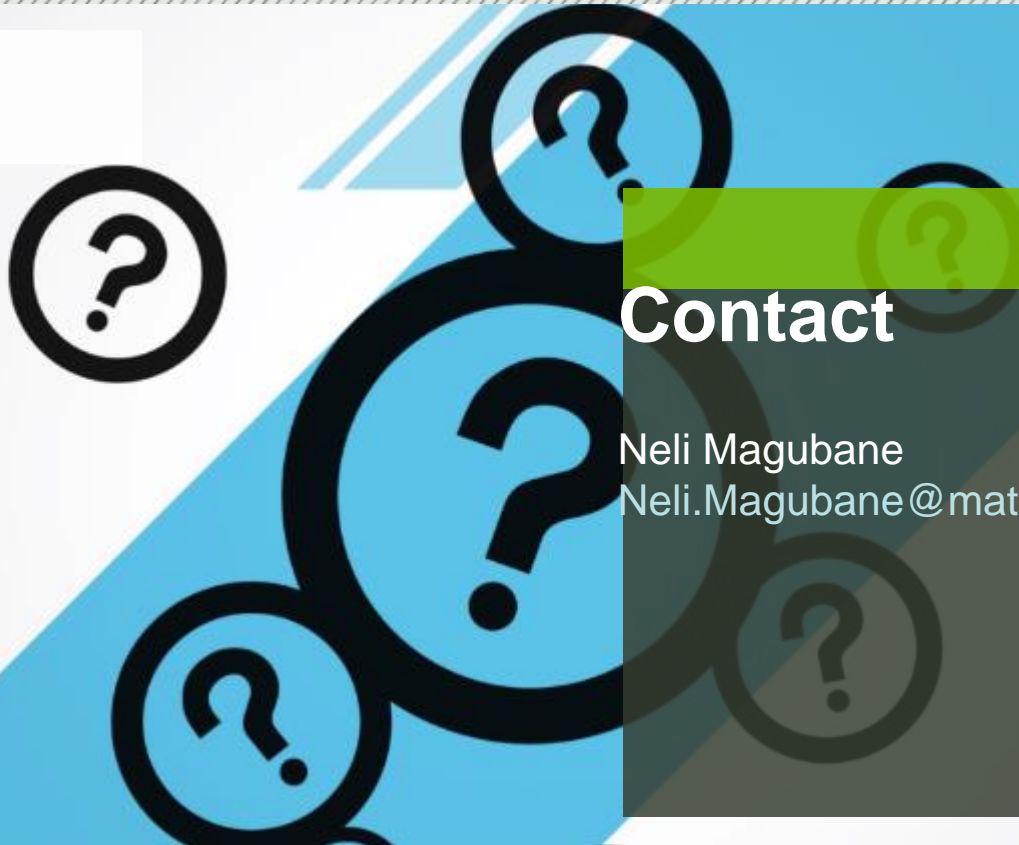
Grid providers can't plan the grid to connect IPPs if there is no agreed view on where the Gx will be located

Generation procurement is impacted by grid capacity and timeframe limitations



USAID
FROM THE AMERICAN PEOPLE

Want more information?



Contact

Neli Magubane
Neli.Magubane@matleng.com