Cresco Presentation

Decarbonisation Solutions

Renewable Procurement to Energy Strategy – Approach / Lessons Learnt

CCJ

3rd March 2022

Financial & Transactional Advisory
South Africa | Mauritius | Nigeria
Cresco is a hands-on financial advisory firm dedicated to helping ideas across Africa to become reality

Cresco
ENABLING GROWTH

1. Market Identification

Significant competition in Private Sector procurement expected over next 2 to 3 years – to achieve approximately [30]% RE penetrations - most targets in the next 3 years to 2025

CATEGORY	RELEVANT SECTOR	CAPACITY (MW)
1. EIUG Clients	Industrial	[18 000 – 23 500 MW]
2. Larger User Clients (Not EIUG)	Industrial, Agriculture	[5 000 – 10 000 MW]
3. Manufacturing Circle Clients	Industrial , Agriculture	[5 000 – 7 500 MW]
4. Smaller Eskom Clients	Industrial Sector, Agriculture	[5000 MW – 10 000 MW]
5. Smaller Municipal Clients	Commerce and Public Services	[2500 MW – 5000 MW]
a. Small Manufacturing	*Industrial*	*[2000 MW – 4 000 MW]*
b. Commercial Property	*Commerce and Public Services*	*[1 500 MW – 2 000 MW]*
6. Residential Clients	Residential	[5000 MW – 7500 MW]
7. Government	Both commercial and other	[1000 to 2000 MW

Current estimates above risk of double counting per category

Disclaimer:
The Capacities shown above are being updated for market information currently high-level estimates from Cresco's internal assumptions / information

2. Competition for IPPs

Now a "sellers" market as opposed to a buyer's market in 2020/2021

Significant competition in Private Sector procurement expected over next 2 to 3 years – to achieve approximately [30]% RE penetrations - most targets in the next 3 years to 2025

Projects	Stage	Date
Ferrochrome (250 MW)	RFP stage	Dec 2021
Manganese (20 MW)	EPC approach	Done
Oil and Gas (600 MW)	RFP 1 stage	RFP November 2021
Ferrochrome – 300 MW	Preferred bidder stage	Unknown
Mineral Sands (140 MW)	Adjudication stage	Unknown
Other Beneficiation [unknown]	RFP stage	Unknown
Minerals Sands (200 MW)	RFP stage	RFP expected in September
Platinum, Coal ([680] MW)	Phased approach	One IPP procured – next 3 years
Manganese [unknown]	Feasibility work	Unknown
Metals Alloys [unknown]	RFP stage	Assuming Oct 2021 date
Cement ([50] MW)	Preferred bidder stage	Unknown
Manufacturing Circle Clients (500 MW)	Various stages	Unknown
Manganese ([60] MW)	Preferred bidder stage	Unknown
PGM / Gold (200 MW)	RFP stage	Unknown
PGM ([100] MW)	Unknown	Unknown
Zinc / other ([100] MW)	Unknown	RFP later this year
Sugar projects / RCL 100MW	Energy Strategy	Unknown
Other smaller projects, Data centers etc. – are estimated at 300 MW		

Circa over 3000 MW of projects in the pipeline – circa R30billion to R40billion of peak funding should these be realised within next 2 to 3 years. This excludes smaller loads within Munis etc.

3. Decarbonation Matrix – A Typical Road Map / Issues

Consideration	Phase 1 – 25% Penetration	Phase 2 – 50% Penetration	Phase 3 – 80% Penetration	Phase 4 – 100% Penetration
Date target set	2020	2021	2021	?
Target deadline	**2025**	**2025**	**2030**	**2040**
Technologies	or			+ Green H_2 + Offset + ?
Energy Purchase	ZAR Variable Tariff	ZAR + USD Variable Tariff	ZAR + USD Variable Tariff + Capacity Charge	?
Dispatchability	✗	✗	✗ ✓	✓
Funding Structure	Single Asset Project Finance	Portfolio Project Finance	EnergyCo, Corporate Finance	?
Funding Terms	12-18 Years tenor SA Bank	USD Climate Finance, First Loss	Similar lower	?
Termination Value - COD	R / kWh – COD	↓	↓↓	? ? ?
Termination approach	Debt + Equity	↓ Debt + ↓ Equity.	↓↓ Debt + ↓↓ Equity.	?
IFRS issue	✗	✗	✓	✓

4. Cresco's Transaction Advisory

Typical Engagement Approach for Larger Buyers

Helping large energy users "decipher" differing renewable energy solutions and tariffs to provide "value for money" with a fair risk allocation

Cresco is assisting a number of "large" energy users / buyers in preparing an Energy Strategy and then *onto procurement to reduce:*

- *Eskom price escalation*
- *Meet Climate change targets*
- *Reduce carbon tax exposures*

ENERGY STRATEGY TO PRE PREFERRED BIDDER

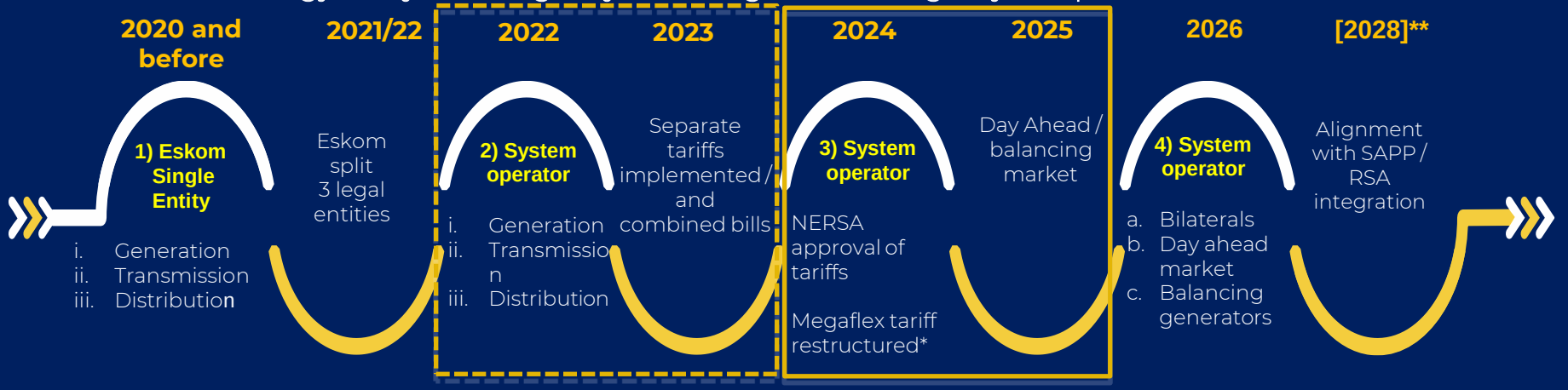
POST PREFFERED BIDDER TO FIN CLOSE

- Practical steps to achieving cost and Climate tangible / change targets
- Short to medium term technology interventions
- Clear / transparent RFP to understand Tariff
- Fair risk allocation between "seller / IPP & "buyer"
- Industry precedents
- Well structured / managed bidding process
- Credible term sheets from "funders"
- Acceptable and Amended PPA approach to optimize tariff
- Key inputs to tariff reviewed
- Benchmarking for reasonableness
- Net Present value of savings (not lowest tariff but highest TOU offset)
- Preferred / reserve bidder
- Project development agreement finalization
- Bid bond / development costs sharing
- Key terms agreed but PPA finalized
- Funding approved
- Buyer & seller final approvals
- NERSA submission
- Wheeling / Eskom approval
- Tariff adjustment (based on USD / Rand)
- Termination values finalized
- EPC Notice to proceed

5. Current Eskom Unbundling Plan

Unbundling and Future predictions and impact on Munis – [Salga court cas key deciding factor to future approaches

The Eskom unbundling journey as envisaged by the Pricing team – timing subject to political will



3 key milestones for Eskom unbundling – aligning:

1) Legal entity unbundling

2) Tariff unbundling

3) Day Ahead / balancing market

All subject to NERSA approval and government political will

Following slides considers changes to the megaflex tariff structure changes

*** Cresco view on possible timing – other timing confirmed verbally with Eskom*

IRP 2019 to be updated – theoretical limit on self generation

Emerging Long Term Plan

	COAL	DECOMMED COAL	NUCLEAR	HYDRO	PUMPED STORAGE	PV	WIND	CSP	GAS / DIESEL	OTHER (Distributed)
Current Base	37149		1860	2100	2912	1474	1980	300	3830	499
2019	2155	-2373					244	300		
2020	1433	-557				114	300			Allocation to the extend capacity and energy gap
2021	1433	-1403				300	818			
2022	711	-844			513	1400	1600			
2023	750	-555				1000	1600			500
2024			1860				1600		1000	500
2025						1000	1600			500
2026		-1219					1600			500
2027	750	-847					1600		2000	500
2028		-475				1000	1600			500
2029		-1694			1575	1000	1600			500
2030		-1050		2500		1000	1600			500
TOTAL INSTALLED	33364		1860	4600	5000	8288	17742	600	6830	4499

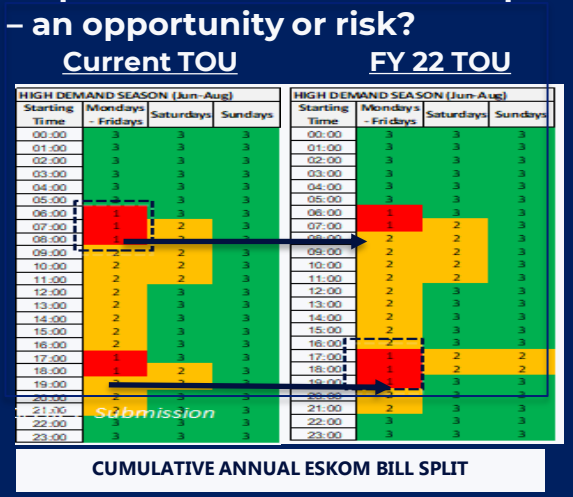
Installed Capacity	Already contracted capacity	Decommissioned Capacity	New Additional Capacity	Koeberg Plant Life Expansion	Includes distributed generation capacity for own use

6. NPV Savings Calculations

- Eskom Megaflex Adjustments / Muni Tariff

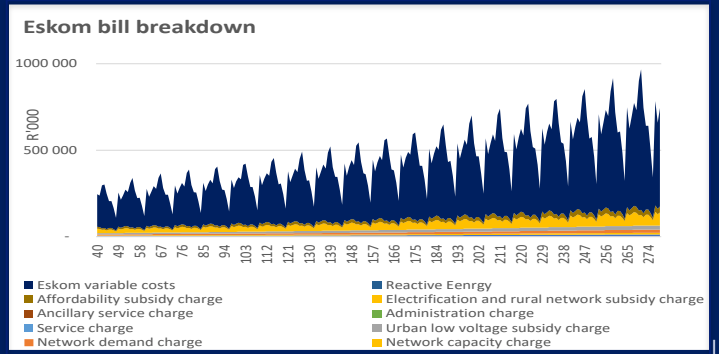
The megaflex changes are currently in progress by Eskom / Municipalities to follow – the impact of balancing power for both the load / generator not yet quantified – an opportunity or risk?

Megaflex change	Projected date	Tariff Impact
1. Peak morning to the evening (timing as per above)	FY 2022 (i.e. April)	Beneficial for Wind over PV Wind higher generation late pm
2. Generating capacity charge introduction	FY 2023/24	Consistent negative savings impact for either technology Noted 23% decrease to savings – however higher load factor clients less negative - Fixed 20% and Variable 80% on average
3. Rebalancing of the tariff from Standard & off peak rates	FY 2023	Beneficial to Wind as higher generation in off-peak compared to PV with higher solar - From currently 3 times ratio of standard to off-peak to 1,5 to 2 times ratio
4. Balancing market	FY 2025	Impact not defined as Eskom unable to quantify "Cost / benefit" of the balancing market



- One hour in peak from morning to evening
- Standard now on Sundays

CUMULATIVE ANNUAL ESKOM BILL SPLIT

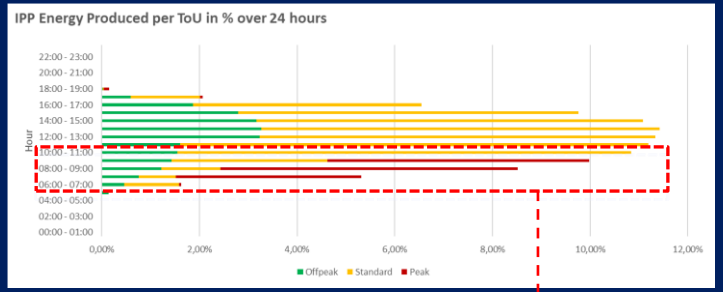


7. Megaflex Changes – Technology Impacts

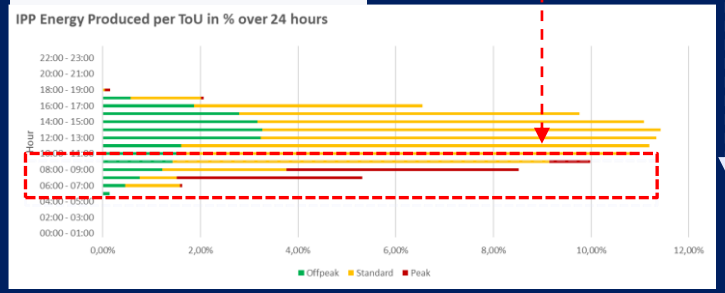
Example Project - PV & Wind

Time of use changes and Wind vs. PV generation profile material impact on savings

Solar Profile & Current ToU



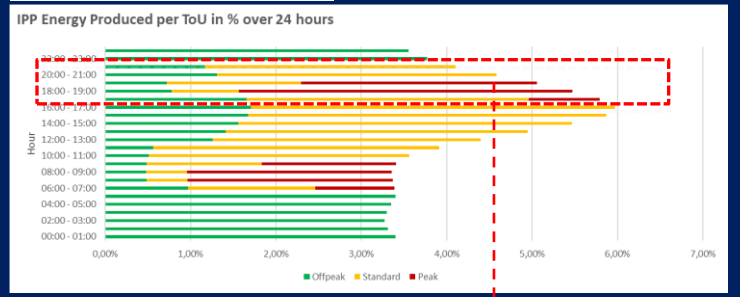
Solar Profile & Proposed ToU



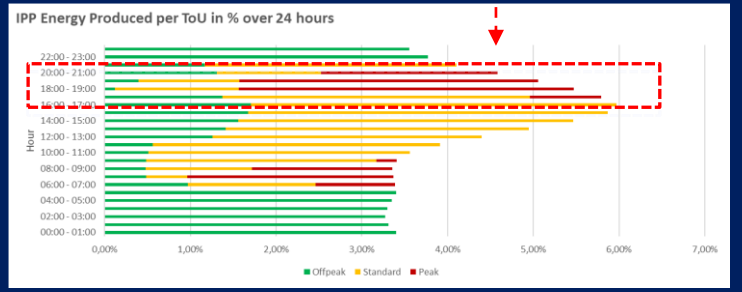
Source: Cresco NPV Model – example PV and wind generation

Megaflex impact
The change in the TOU, standard / off peak has a circa 15 to 25% on potential future NPV of savings projections – technology split is key

Wind Profile & Current ToU



Wind Profile & Proposed ToU



Source: Cresco NPV Model

Scenario & Bidder name	Energy Produced - Peak Period	Energy Produced - Standard Period	Energy Produced - Off-peak Period
Example Solar IPP	16%	65%	20%
Example Wind IPP	15%	40%	45%

8. Cresco – Relevant Clients and Partners

Cresco has assisted a number of large energy users on differing decarbonisation jjourneys with differing "fit for purpose" solutions. Municipal wheeling increasing in focus – some new precedents to be set

BUYERS OF ENERGY

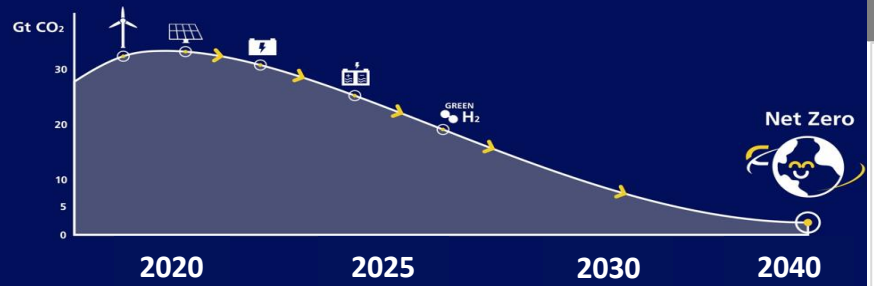
scaw Metals Group · Manganese Metal Co · AngloGold Ashanti · samancor · rbh · mondi · exxaro · NETCARE (You're in safe hands) · Anglo Platinum · Transalloys · AngloAmerican · Illovo Sugar Limited · Richards Bay Minerals · Glencore · De Beers · Sasol · Rio Tinto

SERVICE PROVIDERS (IPP / EPC / OEM / ENG)

aggreko · ENERTRAG (Eine Energie voraus) · WÄRTSILÄ · thyssenkrupp · CROSSBOUNDARY · AIIM (African Infrastructure Investment Managers) · MULILO Renewable Energy · ENGIE · FLUOR · ibvogt · ABENGOA · ACWA POWER · voltalia · Vakuo (Entrepreneurs per nature) · BWSC (Your Global Energy Partner) · TE · MULILO Renewable Energy · juwi (Energy is here) · CAT Financial

ENGINEERING AND CONSULTANTS

DRA · wsp · pwc · Royal HaskoningDHV (Enhancing Society Together) · GIBB · ZUTARI (Impact. Engineered.) · wood. · HARMATTAN



FINANCE

Swedfund · the dti · EEP · AFD · Ecobank (The Pan African Bank) · ICBC · Harith · Proparco · DBSA · European Investment Bank · AFC · IDC · BARCLAYS · FMO · KFW · DEG · Bank of China · Norfund · AIIM (African Infrastructure Investment Managers) · Standard Chartered · JBIC (Japan Bank for International Cooperation) · IFC (International Finance Corporation, World Bank Group) · EXIM · RMB · EULER HERMES · Standard Bank · Investec · SINOSURE · FCMB · absa

Cresco is supporting some of the world's largest energy consumers to evaluate, procure, implement & monitor decarbonisation solutions

Rob Futter

Executive Director

Robert has worked for Cresco Group for the past 13 years across industries but strong focus on mining and infrastructure. He focusses particularly on financial modelling and finance structuring for cross border opportunities. He is a qualified Chartered Accountant who has focused on project finance in Sub Saharan Africa for the past 15 years, with an additionally 4 years' experience in the UK / European market in similar areas. He has extensive financial modelling experience across various industries. Strategic business development services for start-up and technology entities.

Increasing focus on helping corporates achieve "optimistic" Net Zero targets with realistic tangible solutions

Cresco

ENABLING GROWTH

www.crescogroup.africa | info@crescogroup.africa | +27 (0) 12 663 3660 | +230 5497 4583 | +234 (805) 665 7100 | +351 913 904 685