

Annexure 3

Details of the Independent Power Producers – How much they contribute to the grid and how much is the cost to Eskom?

Eskom acknowledges the role that the DoE's Renewable Energy Independent Power Producer Procurement Programme (RE-IPPP) plays in the South African electricity market as a positive contribution towards environmental sustainability and in strengthening the power system adequacy.

Worldwide, IPP's invest in many different technologies and projects. In South Africa IPP's are investing in Open Cycle Gas Turbines (OCGT), Wind, Photovoltaic (PV), Concentrated Solar Power (CSP), Hydro, biomass, landfill and coal.

a. IPPs – how much power do they generate onto the grid?

For the year ended 31 March 2019, IPP's contributed 11 344 GWh of energy into the grid (this equates to 5% of the energy). Eskom supplied 212 958 GWh from its own plants and a further 7 355 GWh from IPPs.

b. What is the difference currently between Eskom generating price and the IPP generating price?

As set out in the Eskom Integrated Report for the financial year FY 2019 that ended on 31 March 2019, the average marginal cost to Eskom from the various sources of production is set out in the table found on page 100 of the IR, extracted below:

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A comparison of the primary energy unit cost of the various generation categories is shown below:

Unit cost, R/MWh	2018/19	2017/18	% change
Coal	339	309	9.71
Nuclear	103	94	9.57
OCGTs	3 128	2 313	35.23
IPPs ¹	2 200	2 015	9.18
IPP OCGTs ¹	4 344	2 926	48.46
Renewable IPPs	2 058	2 005	2.64
International purchases	509	358	42.18

1. The average cost is calculated on the net amount spent on energy, after the IFRIC 4 lease adjustment.

The significant increases in the R/MWh cost of OCGTs and international imports were due to an approximate 30% increase in the weighted average cost of diesel, and an increase of 46.3% in the average tariff charged by Hidroelèctrica de Cahora Bassa (HCB) since the prior year. The increase in the average HCB tariff is the result of tariff adjustments, due to annual inflationary measures and a periodic adjustment based on a matrix of indices, as well as changing consumption patterns leading to a higher proportion of supply during the more expensive daytime peak. These levels of cost increases are unsustainable given our prevailing financial challenges.

c. How much is Eskom losing due to IPPs?

In theory the revenue determination by NERSA allows for 100% of the cost of the IPP's to be passed through to the consumer. A temporary loss can manifest when the assumptions about the volume from IPP's and the price at which they are bought (caused by a mix change between IPP renewable energy plant and IPP OCGT plant) used by NERSA in the determination of Eskom's allowed revenue are different to what is experienced in actual mode. The RCA mechanism is used to recoup this possible loss should it arise.

The bigger impact to Eskom from the IPP's is the need to continue to have generating plant available to supply the energy demanded by consumers when IPP plant is not generating (for example solar PV plant cannot generate at night) and base-load coal stations are needed to operate overnight to meet the peak demand. This results in Eskom only being able to recover the fixed cost portion of the generating plant over a lower volume of sales, driving an aggressive increase in the overall revenue required from the energy it supplies from its own production facilities. This is calculated to be a loss of approximately 16% per unit of energy sold where this is being produced from sources other than IPP's in the FY 2019 period.

1. Regulatory Framework for recovery of IPP costs

The MYPD methodology requires a two-step process for the recovery of IPP costs. The first is the forward looking MYPD application and the second is the backward looking adjustment through the Regulatory Clearing Account (RCA) process.

MYPD decision: For each MYPD application cycle, Eskom receives input from the DOE IPP office on the IPP projects to be included. These need to be approved by the Departments of Energy, Finance and Public Enterprises. The Government approved IPP decisions are used as an assumption for IPP related revenue in the Eskom MYPD application. Similar assumptions are made for each of the other revenue items. The total reflects the allowed revenue for a particular year. NERSA reviews these for efficiency and prudence and makes a decision that balances the impact on the sustainability of Eskom and the impact on the consumer. Generally, NERSA has decision on IPP related revenue has been aligned to the Eskom application. However, the same is not the case for Eskom's other costs – such as coal or operating costs. Thus, any shortfall in the allowed revenue usually results in lower coal or primary energy revenue being assumed than being applied for.

Once NERSA decides on Eskom's allowed revenue for the year, an average tariff is calculated based on an assumed sales volume. Eskom is allowed to recover its allowed revenue through the sale of electricity. For argument sake, if the average price of electricity is 90c/kWh and IPP revenue is 15% of the total revenue which

corresponds to approximately 12.5c/kWh. As Eskom sells electricity, it recovers its IPP (and other) costs throughout the year.

RCA decision: After the end of the financial year, when Eskom submits the RCA application, a comparison is made of the costs as included in the MYPD revenue determination versus the actual costs incurred i.e. payments to IPPs for the year, to determine if there was an over recovery or under recovery. Eskom will be refunded (by virtue of an 'add-on' to future 'allowed revenues' thus tariffs) for an under recovery and for an over recovery Eskom will have a reduction of the RCA amount (thus a deduction from future 'allowed revenues' thus tariffs). The details for the 2011 to 2017 years are reflected in the table below.

Table 1 : Summary of IPP revenue variances for MYPD 2, MYPD 3 period and the 2018/19 performance

MYPD IPP costs (R'm)	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019
MYPD Decision	2 304	4 299	5 819	2 686	5 108	14 826	19 269	21 300	26 596
MYPD Actuals	1 264	3 250	- 2 956	3 266	9 453	15 446	21 720	23 018	26 321
MYPD Variance Applied	-1 040	-1 049	-2 863	580	4 345	620	2 451	1 718	-275
MYPD Variance Allowed	-1 040	-1 049	- 2 863	580	4 217	548	-793	1 825	TBD
RCA Variance not allowed	0	0	0	0	-128	-72	-3 244	-106	TBD

The above table reflects that substantially between FY 2011 and FY2016, NERSA through the combination of the MYPD revenue applications and the Regulatory Clearing Accounts (RCA) processes, the Regulator has allowed the IPP costs to be passed through to the consumer.

- 2011 to 2014 – All variances Eskom applied for with regards to IPP costs were approved by NERSA in its RCA decisions.
- 2015 and 2016 – A significant portion of the IPP variance was included in the RCA determination. The portion not recovered related mainly to deemed energy payments that NERSA determined to be inefficient (Responses proposed below).
- 2017 – Eskom applied for a variance in favour of Eskom for R2 451m. However NERSA determines that the RCA balance due to IPP revenue should be R793 in favour of the consumer. This is a difference of R3 245m for the 2016/17 year related mainly to MTPPP and STPPP that was disallowed. NERSA in this decision determined that there would not be a need for energy from these IPPs from the

2016/17 year onwards. NERSA approved that it would allow the energy but at the rate of a coal cost equivalent of approximately 30c/kWh.

- 2017 – Eskom applied for a variance in favour of Eskom for R2 451m. However NERSA determines that the RCA balance due to IPP revenue should be R793 in favour of the consumer. This is a difference of R3 245m for the 2016/17 year related mainly to MTPPP and STPPP that was disallowed. NERSA in this decision determined that there would not be a need
- 2018 – NERSA disallowed the Use of System charges of R106m
- 2019 – Eskom has submitted its RCA application for FY2018/19 per the MYPD Methodology. NERSA is currently conducting public hearings for this application.

However, this contradicts a decision made by NERSA on 29 March 2016. NERSA had considered the constraints in the system and the Energy Regulator approved the contracting of the IPPs at an approved rate on 29 March 2016, two days before the contracts came into effect. Only when these were secured, was Eskom in a position to finalise these IPP contracts. If any of these approvals had not been received, Eskom would not have concluded any of these contracts if any of the approvals had not been received. This introduces severe regulatory risk – since NERSA is not keeping to its own decision.

The details of IPP performance for each year where the outcome of the RCA process is reflected in the following tables.

Table 2: Detailed performance in FY2013/14 per RCA application

Independent Power Producers FY 2014	Costs (R million)			Volumes GWh			Average R/MWh	
	Actuals	Decision	Variance	Actuals	Decision	Variance	Actuals	Decision
Non-renewable programs	2 877	2 545	332	3 421	3 266	155	841	779
MTPPP	1 218	1 523	-305	1 478	2 083	-605	824	731
STPPP (including Munics)	1 588	1 022	566	1 804	1 183	621	880	864
WEPS	72	-	72	139	-	139	520	0
Renewable IPP's	389	-	389	250	-	250	1557	0
Renewable IPP's - energy	389	-	389	250	-	250	1557	0
Renewable IPP's - deemed energy payment	-	-	-	-	-	-	-	-
DOE Peaker	-	-	-	-	-	-	-	-
Total IPP energy costs	3 266	2 545	721	3 671	3 266	405	890	822
IPP ancillary costs	-	141	-141	-	-	-	-	-
Total IPP costs	3 266	2 686	580	3 671	3 266	405	-	-

Table 3: Detailed performance in FY2014/15 per RCA application

Independent Power Producers (IPPs) FY 2014/15	Costs (R'million)			Volumes (GWh)			Average Costs (R/MWh)		
	Actuals	Decision	Variance	Actuals	Decision	Variance	Actuals	Decision	Variance
Non-renewable programs	2 772	595	2 177	3 006	654	2 352	922	910	12
MTPPP	62	92	-30	55	114	-59	1 127	807	320
STPPP (incl Munics)	2 635	503	2 132	2 805	540	2 265	939	931	8
WEPS	75	-	75	146	-	146	514	-	514
Renewable IPP's	6 682	4 240	2 442	3 017	1 934	1 083	2 215	2 192	22
Renewable IPPs energy	6 553	4 240	2 313	3 017	1 934	1 083	2 215	2 192	22
Renewable IPPs - deemed energy payme	129	-	129	-	-	-	-	-	-
DOE Peaker	-	-	-	-	-	-	-	-	-
Total IPPs	9 454	4 835	4 619	6 023	2 588	3 435	1 570	1 974	-404
IPP ancilliary costs	-	273	-273	-	-	-	-	-	-
Total IPPs for RCA	9 454	5 108	4 346	6 023	2 588	3 435			

Table 4: Detailed performance in FY2015/16 per RCA application

Independent Power Producers (IPPs) 2015/16	Costs (R'million)			Volumes (GWh)			Average Costs (R/MWh)		
	Actuals	Decision	Variance	Actuals	Decision	Variance	Actuals	Decision	Variance
Non-renewable programs	3 674	-	3 674	3 969	-	3 969	926	-	926
MTPPP	56	-	56	44	-	44	1 269	-	1 269
STPPP	2 682	-	2 682	2 816	-	2 816	952	-	952
Municipalities	858	-	858	976	-	976	879	-	879
WEPS	78	-	78	132	-	132	595	-	595
Renewable IPP's	11 182	13 243	-2 061	5 003	6 835	-1 832	2 235	1 938	298
Renewable IPPs energy	11 158	13 243	-2 085	5 003	6 835	-1 832	2 230	1 938	293
Renewable IPPs - deemed energy payment	24	-	24	-	-	-	-	-	-
DOE Peaker	590	1 195	-605	62	168	-106	9 540	7 130	2 410
Total IPPs	15 446	14 438	1 008	9 034	7 002	2 031	1 710	2 062	-352
IPP ancilliary costs	-	388	-388	-	-	-	-	-	-
Total IPPs for RCA	15 446	14 826	620	9 034	7 002	2 031			

Table 5: Detailed performance in FY2016/17 per RCA application

Independent Power Producers 2016/17	Cost (R'm)			Volumes(GWh)			Average Costs (R/MWh)		
	Actuals	Decision	Variance	Actuals	Decision	Variance	Actuals	Decision	Variance
Non-Renewable	3953	-	3953	4235	0	4235	933	-	-
MTPPP	37	-	37	29	-	29	1 276	-	-
STPPP	2861	-	2861	3003	-	3003	953	-	-
Municipalities	985	-	985	1098	-	1098	897	-	-
WEPS	70	-	70	105	0	105	667	-	-
Renewable IPP's	15582	16386	-804	7227	7991	-764	2156	2051	106
Renewable IPP Energy	15105	16386	-1281	7227	7991	-764	2156	2051	106
Renewable IPP - Deemed Energy Payments	477	-	477	-	-	-	-	-	-
DOE Peaker	2186	2786	-600	67	440	-373	32627	6332	26295
Total IPPs	21721	19172	2549	11529	8431	3098			
IPP Ancilliary Cost	0	97	-97	-	-	-	-	-	-
Total IPP for RCA	21721	19269	2452	11529	8431	3098			

Table 6: Detailed performance in FY2017/18 per RCA application

Independent Power Producers (IPPs)	Costs (R millions)			Energy (GWh)			Average Costs (R/MWh)		
	Actuals	Decision	Variance	Actuals	Decision	Variance	Actuals	Decision	Variance
2017/18									
Renewable IPP programme	19 008	19 689	-681	9 479	9 080	399	2 005	2 168	-163
DoE Peaker	2 291	3 504	-1 213	105	440	-335	21 728	7 960	13 768
Total IPPs	21 300	23 193	-1 893	9 584	9 520	64	2 222	2 436	-214
IPP ancillary cost		-175	175						
Total IPPs for RCA	21 300	23 018	-1 718	9 584	9 520	64	2 222	2 418	-195

Table 7: Detailed performance in FY2018/19 per RCA application

Independent Power Producers	Cost (R'm)			Volumes (GWh)			Average costs (R'm)		
	Decision	Actuals	Variance	Decision	Actuals	Variance	Decision	Actuals	Variance
FY 2019									
Renewable IPP Programme	24 216	22 364	(1 852)	11 591	10 792	(799)	2 089	2 072	17
DoE Peaker	2 380	4 291	1 911	88	552	464	27 046	7 780	19 266
Total IPP's	26 596	26 655	59	11 679	11 344	(335)	2 277	2 350	73
IPP ancillary costs	-	-	-	-	-	-	-	-	-
Total IPP's	26 596	26 655	59	11 679	11 344	(335)	2 277	2 350	73

It is clarified that there is a difference between the variance in this detailed performance table when compared to the RCA variance (as quoted in Table 1 : Summary of IPP revenue variances for MYPD 2, MYPD 3 period and the 2018/19 performance). This is due to further adjustments that were made relating to reversal of provisions resulting in changing the variance to R275m in favour of consumers.

2. Risk to Eskom's financial neutrality

The main risk to Eskom's financial neutrality regarding costs incurred in terms of PPAs is that Eskom's overall average price is not yet at the level of being reflective of prudent and efficient costs. Eskom's revenue applications to NERSA proposes to correct this under-pricing situation in a responsible and gradual manner i.e. by phasing-in Eskom's current unsustainably-low average electricity price of 90c/kWh (US\$ 6.3c/kWh, for generating, transmitting and distributing) towards the level of full recovery of prudent and efficient costs, over a period of four to five years. NERSA has however been adjusting the allowed revenue downwards thus implying a longer period to achievement of prices reflective of prudent and efficient costs. The main mechanism used by NERSA to do this has been to adjust the 'return on capital' to an amount significantly below the amount required in terms of Eskom's Weighted Average Cost of Capital (WACC) – even the adjusted WACC as calculated by NERSA. The MYPD

Methodology is silent on this type of adjustment, other than NERSA's general level of judgement and discretion (that should still however, meet the requirements of rationality etc.).

This might also apply to some of NERSA's assumptions of reductions in other cost items for purposes of its revenue determinations. Hence there is a significant risk that these adjustments to reduce Eskom's 'return on capital' to below its 'cost of capital', and to assume reduced costs on other expenditure items, might be more arbitrary and subject to various other influences, than informed by sound analysis and reasoning. This situation introduces the very real risk that, as additional IPPs become operational and start delivering electricity thus obliging Eskom to incur additional cost in terms of the PPAs, NERSA may "compensate" for this by reducing other components of the revenue formula (e.g. return on asset, depreciation or any other cost) to achieve a low tariff. It would of course be difficult to 'prove' that NERSA reduced other components of revenue formula to compensate for IPP costs. However, this does not change the fact that an ostensible acceptance by NERSA of increased cost of purchases from IPPs, is at very real risk of not actually being recovered through revenue by Eskom, due to further adjustments (reductions) being made on other cost elements. Thus, only once Eskom's average electricity price reaches the level of being reflective of prudent and efficient costs, will it be possible to state that the full costs incurred in terms of PPAs are actually recovered through revenues.

This has been illustrated by the NERSA revenue decision for the 2018/19 financial year where the average price increase was 5.25%. Of this amount, the IPP revenue accounted for 2% and the rest of Eskom revenue requirements received a 3.23% increase. Thus as the contribution from IPPs increase, the impact would be more impactful for Eskom's other business – if an artificial cap has been decided upon.

3. Management of cost recovery risks

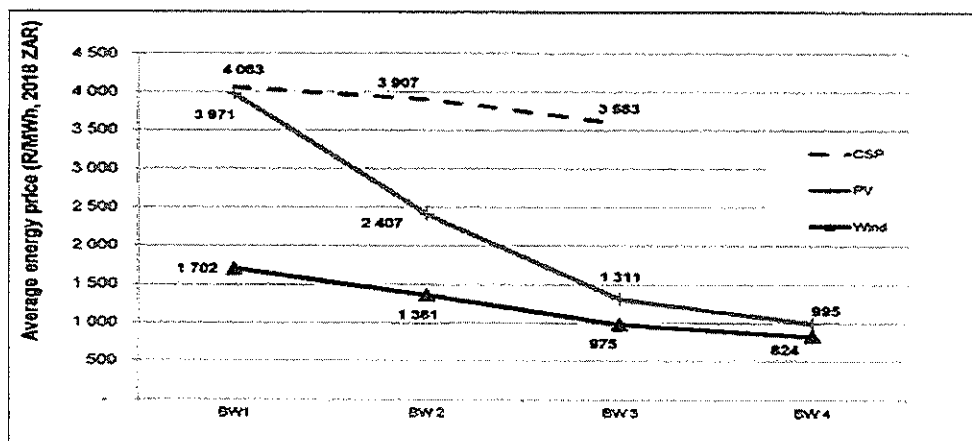
The challenge with the regulatory process with regards to the DOE IPP projects has been the recovery of deemed energy payments. This has been a relatively small portion of the IPP costs thus far. NERSA has disallowed deemed energy payments in the recent RCA decisions without considering the reasons for deemed energy

payments. The deemed energy payments disallowed are reflected in Table 1 above. The reasons that deemed energy payments are made include:

- Curtailment – This is a system requirement when there is too much generation on the system. Thus the energy would need to be paid for, since the renewable IPP had generated the electricity. There are instances when the system does not require the energy, but since it is self-generating, it needs to be paid for. The extent of this curtailment is minimal in comparison to the overall costs of IPP. It is clarified that the costs associated with curtailment in the recent past were as follows:
 - R0.5m for 2016/17 financial year
 - R0.8m for 2017/18 financial year
 - R3.6m for the first half of 2018/19 financial year
- The network operator (Eskom and Municipalities) did not connect IPPs in time. These delays are caused by operational (project) challenges and/or Force Majeure events
- Municipalities experiencing network outages (only started this year) longer than contractual allowance.
- Eskom experiencing network outages longer than contractual allowances

4. Comparison of renewable IPP energy prices

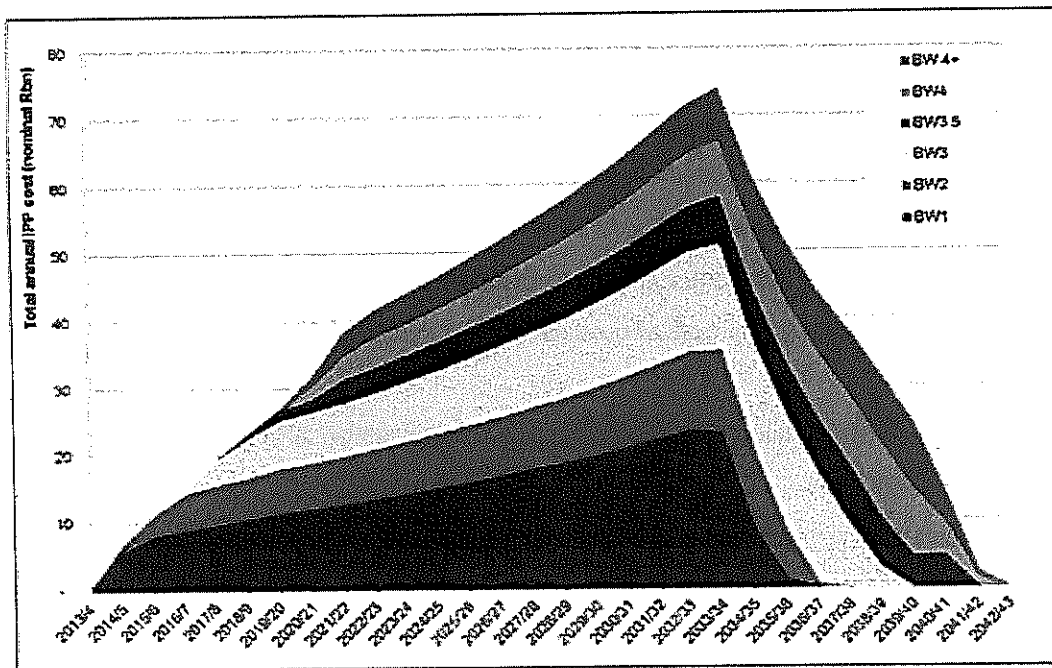
Figure 1 : RENEWABLE IPP ENERGY COSTS PER TECHNOLOGY TYPE



The figure above demonstrates the costs of various renewable technologies over the four bid windows undertaken by the Department of Energy. The comparable marginal coal technology cost is less than R700/MWh.

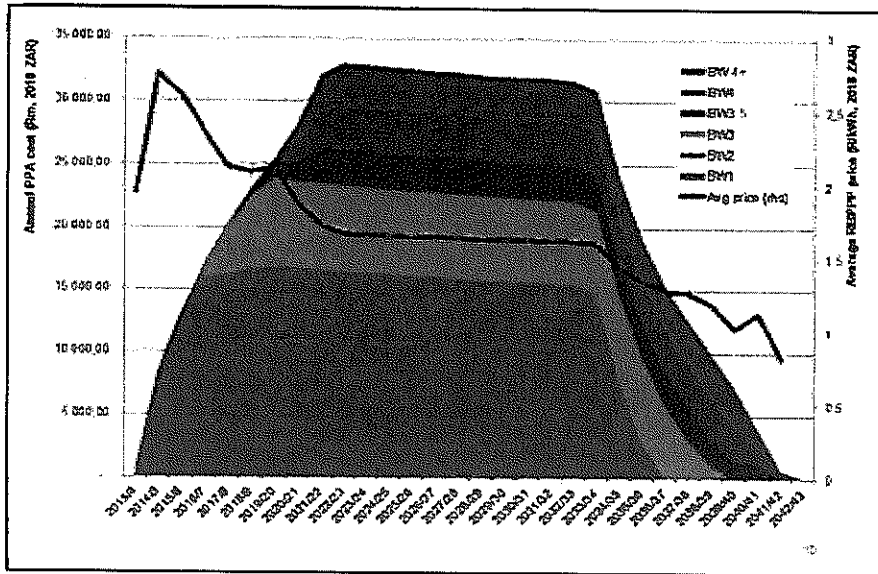
5. Summary of future IPP programme costs

Figure 2: Summary of REIPP nominal costs over life of contracts



The nominal costs of REIPP bid windows are illustrated in the figure above. It can be observed that the contract prices for the earlier bid windows are required to continue with whatever escalations have been agreed to. Thus even though the subsequent bid windows may have been based on a lower cost for a particular technology (eg wind), this will only apply to that subsequent bid window. The figure only addresses the existing bid windows. Any further programmes being procured will need to be factored in.

Figure 3: REIPP Costs (Real)



The figure above illustrates the real costs of the renewable IPP contracts for each of the bid windows. The black line illustrates the decrease in the average price (in real terms), based on 2018 value, over the years of the contracts. This is due to the drop in prices in later bid windows.

6. Financial Implications of IPP Programmes

The information provided below aims to provide a summary of the financial implications of IPP programmes to Eskom.

- The estimated indicative programme value for the projects under Bid Window 3.5 and Bid Window 4 is nominally estimated at R345.5 billion over the 20-year term of the projects. It is to be noted that the value is indicative. It is calculated on the basis of the bid in prices (which could change at financial close), subject to estimated consumer price indexation over 20 years and applied to estimated energy production.
- The total estimated nominal cost over all four bid windows of the Renewable IPP Programme and Peakers Programme amounts to over a trillion Rand. This is illustrated in the table below.

Table 8: Total estimated nominal contract values

Bid Windows 1 to 3	R 784.3 billion
Bid Windows 3.5 and 4	R 345.5 billion
Peakers	R 71.7 billion
<i>Total estimated nominal contract value</i>	<i>R1 201.6 billion</i>

- Due to the procurement process followed in South Africa and the socio economic requirements cost may be higher than in other jurisdictions

7. Total average Eskom selling price

NERSA approves the average Eskom selling price that constitutes the value chain that comprises Generation, Transmission and Distribution business. Thus when comparing the price of renewable IPPs it must be against the Generation price and not the total selling price. On average the Generation business represents between 70%~75% of the total selling price. As illustrated in the table below, the price of the IPPs if separated out is higher than the average generation price.

Table 9: Comparison of average prices

Eskom selling price (c/kWh)	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022
MYPD Decision (c/kWh)	65.51	70.75	76.41	82.53	89.13	93.79	102.62	110.93	116.72
MYPD Decision after RCAs (c/kWh)			79.73	87.23	89.13	93.79	106.80		
MYPD3 and MYPD4 price increases Before RCA adjustments	8%	8%	8%	8%	8%	5.23%	9.41%	8.10%	5.22%
MYPD3 and MYPD4 price increases After RCA adjustments	8%	8%	12.69%	9.4%	2.2%	5.23%	13.87%	TBD	TBD
Generation selling price (c/kWh)	45.8	49.5	55.1	60.2	65.9	70.3	*80.11	*83.19	*87.54
Average Renewable selling price (c/kWh)	155.7	221.5	223.0	215.6	200.5	207.2	224	211	205

*Generation selling price estimated at 75% of the total selling price

8. Why any system cannot depend only on renewable energy

An electricity consumer requires various essential elements when purchasing electricity. These include consistency, convenience, continuity, choice and cost. When any consumer purchases electricity then following elements are included in a package:

- Peak capacity
- Dispatched ramping
- Energy
- Synchronisation power
- System strength
- Frequency
- Voltage

It is thus misleading to assume that the value derived from renewable energy is equivalent to that which is received from conventional plant at a far lower cost. It needs to be considered that the only element that is available from renewable energy is the energy component. The conventional plant is depended on for the other elements that any consumer requires.

Renewable Energy Power Purchase Programme

Financial year 2018/19

Totals YTD		BW1	BW2	BW3	BW3.5	TOTAL
Energy (GWh)	Wind	1 860.21	1 666.84	2 658.07	-	6 185.13
	PV	1 357.45	1 009.06	943.20	-	3 309.71
	CSP	458.43	212.04	472.01	50.88	1 193.36
	Hydro	-	72.23	-	-	72.23
	Landfill	-	-	31.98	-	31.98
	Total	3 676.09	2 960.17	4 105.27	50.88	10 792.41
Capacity (MW)	Wind	639.34	555.11	785.31	-	1 979.76
	PV	625.17	414.02	435.00	-	1 474.19
	CSP	150.00	50.00	200.00	100.00	500.00
	Hydro	-	14.22	-	-	14.22
	Landfill	-	-	7.56	-	7.56
	Total	1 414.51	1 033.35	1 427.87	100.00	3 975.73
Payments (Rm)	Wind	3 211.45	2 398.03	2 648.27	-	8 257.75
	PV	5 445.38	2 666.93	1 306.55	-	9 418.86
	CSP	1 847.62	828.53	1 695.54	209.73	4 581.42
	Hydro	-	112.36	-	-	112.36
	Landfill	-	-	41.22	-	41.22
	Total	10 504.45	6 005.85	5 691.57	209.73	22 411.61
Load Factor (%)	Wind	39.62	40.89	46.09	-	42.54
	PV	29.57	33.19	29.52	-	30.57
	CSP	41.61	57.74	32.14	6.93	32.50
	Hydro	-	69.17	-	-	69.17
	Landfill	-	-	57.61	-	57.61
	Total	35.39	39.01	39.15	6.93	36.96
Avg Price (R/MWh)	Wind	1 726.39	1 438.66	996.31	-	1 335.10
	PV	4 011.48	2 642.99	1 385.23	-	2 845.83
	CSP	4 030.31	3 907.44	3 592.17	4 121.84	3 839.09
	Hydro	-	1 555.51	-	-	1 555.51
	Landfill	-	-	1 288.71	-	1 288.71
	Total	2 857.51	2 028.89	1 386.41	4 121.84	2 076.61

Note: This information is based on the invoices received for the year

Financial year 2019/20

Totals YTD		BW1	BW2	BW3	BW3.5	TOTAL
Energy (GWh)	Wind	1 657.42	1 443.62	2 239.15	-	5 340.19
	PV	1 130.50	832.66	771.74	-	2 734.90
	CSP	341.51	178.29	537.97	256.11	1 313.88
	Hydro	-	45.19	-	-	45.19
	Landfill	-	-	20.94	-	20.94
	Total	3 129.43	2 499.76	3 569.81	256.11	9 455.10
Capacity (MW)	Wind	639.34	555.11	785.31	-	1 979.76
	PV	625.17	414.02	435.00	-	1 474.19
	CSP	150.00	50.00	200.00	100.00	500.00
	Hydro	-	14.22	-	-	14.22
	Landfill	-	-	7.56	-	7.56
	Total	1 414.51	1 033.35	1 427.87	100.00	3 975.73
Payments (Rm)	Wind	2 961.15	2 151.93	2 327.60	-	7 440.68
	PV	4 739.92	2 260.65	1 113.18	-	8 113.75
	CSP	1 448.34	727.91	2 132.49	1 105.19	5 413.93
	Hydro	-	72.69	-	-	72.69
	Landfill	-	-	28.34	-	28.34
	Total	9 149.41	5 213.18	5 601.61	1 105.19	21 069.39
Load Factor (%)	Wind	39.28	39.40	43.20	-	40.87
	PV	27.40	30.47	26.88	-	28.11
	CSP	34.50	54.03	40.76	38.80	39.81
	Hydro	-	48.15	-	-	48.15
	Landfill	-	-	41.97	-	41.97
	Total	33.52	36.65	37.88	38.80	36.03
Avg Price (R/MWh)	Wind	1 786.60	1 490.65	1 039.50	-	1 393.34
	PV	4 192.78	2 714.96	1 442.42	-	2 966.74
	CSP	4 240.97	4 082.85	3 963.93	4 315.35	4 120.58
	Hydro	-	1 608.36	-	-	1 608.36
	Landfill	-	-	1 353.32	-	1 353.32
	Total	2 923.67	2 085.47	1 569.16	4 315.35	2 228.36

Note: This information is based on the invoices received for the year

Peaker IPP Programme

	FY 2019	FY 2020 YTD
Energy (GWh)	551,60	579,38
Capacity (MW)	1 005,00	1 005,00
Payments (Rm)	3 904,70	4 273,38
- energy	2 009,50	2 592,45
- capital	1 895,20	1 680,93
Load factor (%)	6,27	7,39
Avg Price (R/MWh)	7,08	7,38
- energy	3,64	4,47
- capital	3,44	2,90

9. Conclusion

The energy from IPPs has contributed positively to the supply side needs of the electricity requirements. Absolute price of renewables on average across the portfolio of bid windows to date have been about 3 times more than the Eskom Generation price. However, the trends in prices of wind and PV solar has been decreasing over the various bid windows. Consumers are paying for this source of electricity as Nersa has substantially allowed this as a pass through per the MYPD Methodology.