ALTERNATIVE INFORMATION & DEVELOPMENT CENTRE

Why only the public can save us

→ An empirical argument for a fully-public renewable energy utility to meet climate targets in time to avoid ecological catastrophe.

→

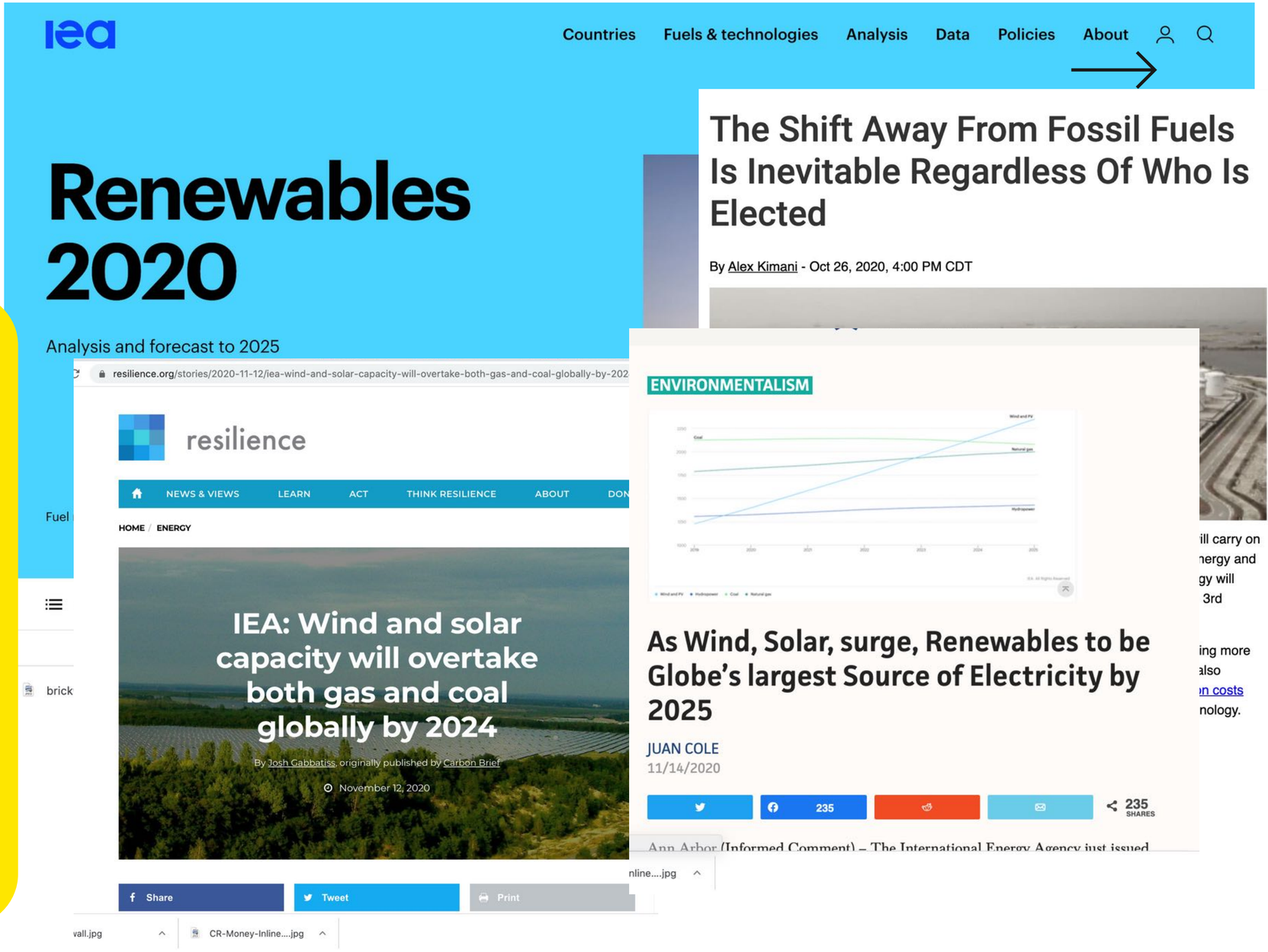
NOVEMBER 2020 | TIPS WEBINAR

AIDC
Alternative Information & Development Centre
Strengthening Alliances for a Wage-Led, Low-Carbon, Sustainable and Equitable Development Path for Southern Africa

OVERVIEW

- We need a transition from a fossil fuel economy to a renewable energy based economy.
- RE transition is inevitable?
- Private RE hit a brick wall!
- The three-fall effect…
- Lessons for SA.

THE TRANSITION IS WELL ON THE WAY?



Falling cost of renewables

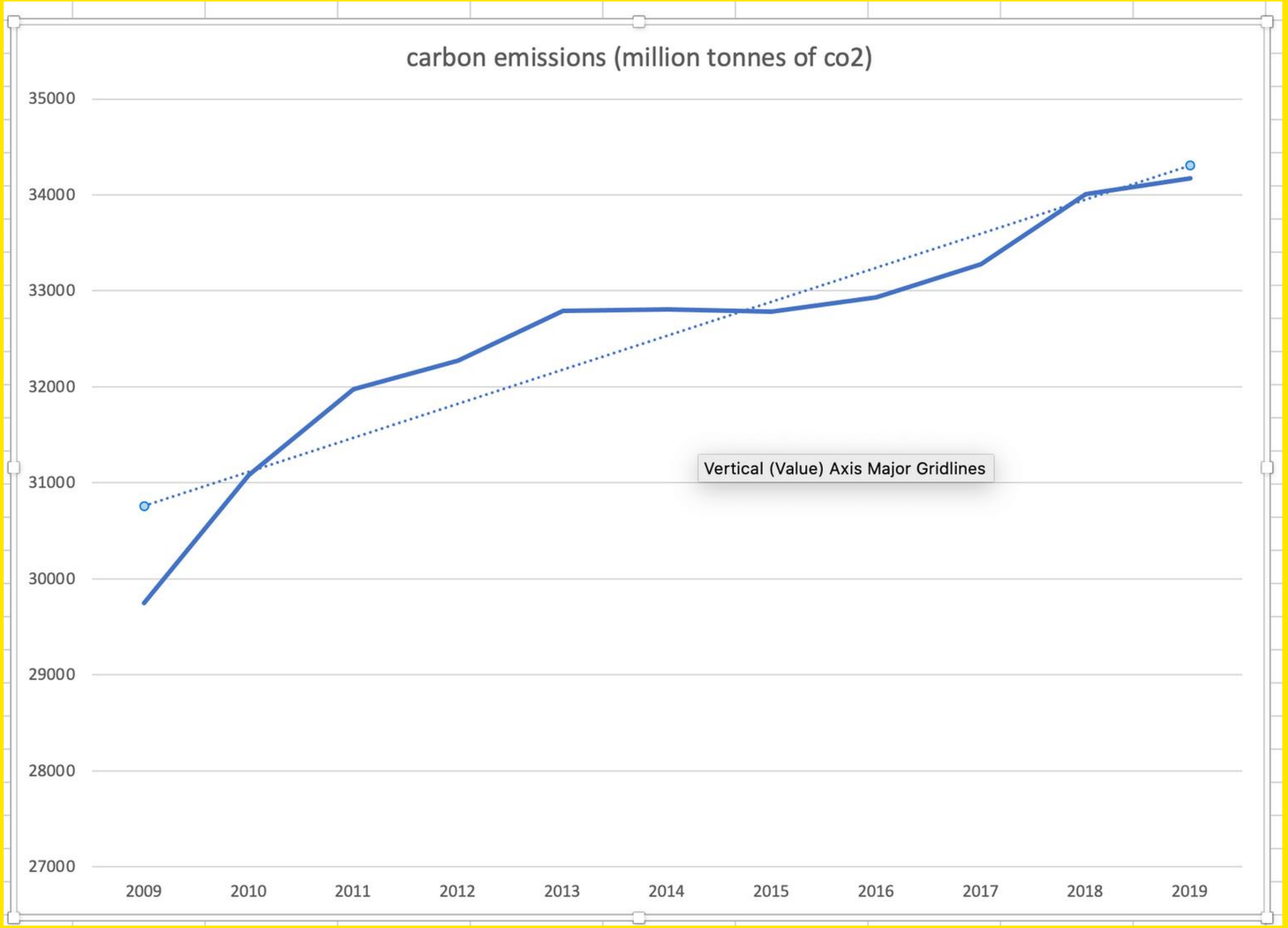
Cost reductions and sustained policy support are expected to drive strong renewables growth beyond 2022.

Renewables' continued cost declines are changing the investor landscape and the role of policies. The share of renewables' growth coming from purely market-based settings – outside of policy programmes like auctions and feed-in tariffs – triples from less than 5% today to more than 15% through 2025

	oil	natural gas	coal	nuclear	hydro	RE	Other		
Energy consumption by fuel									**RE as a % of total energy consumption by fuel**
2018	191,45	138,66	158,79	24,15	37,34	25,83		576,22	**4,48**
2019	193,03	141,45	157,86	24,92	37,66	28,98		583,9	**4,96**
Electricity generation by fuel									**RE as a % of total energy generation by fuel**
2018	890,4	6082,5	10091,3	2700,4	4171,4	2468	248,9	26652,9	9,26
2019	825,3	6297,9	9824,1	2796	4222,2	2808,5	233,6	27007,6	10,40

primary energy production by source source: Energy Information Administrat Monthly Energy Review May 2020

	FOSSIL FUELS					NUCLEAR	RENEWABLE ENERGY							solar as a % of total primary energy production	wind as a % of total primary energy production	wind & solar as a % of total primary energy production	fossil fuels as a % primary energy production	RE as a % primary energy production
	COAL	NAT. GAS	OIL	NGPL	FF TOTAL		HYDRO	GEOTHERMA	SOLAR	WIND	BIOMASS	RE TOTAL	TOTAL					
																	91,6214	
1950	14,06	6,233	11,447		32,565	0	1,415	NA	NA	NA	1,562	2,978	**35,543**				93,0660	
1955	12,37	9,345	14,41		37,366	0	1,36	NA	NA	NA	1,424	2,784	**40,15**				93,1457	
1960	10,817	12,656	14,935		39,871	0,006	1,608	(s)	NA	NA	1,32	2,928	**42,805**				93,2135	
1965	13,055	15,775	16,521		47,235	0,043	2,059	0,002	NA	NA	1,335	3,396	**50,674**				93,2128	
1970	14,607	21,666	20,401		59,178	0,239	2,634	0,006	NA	NA	1,431	4,07	**63,487**				89,2538	
1975	14,989	19,64	17,729		54,709	1,9	3,155	0,034	NA	NA	1,499	4,687	**61,296**				87,8368	
1980	18,598	19,908	18,249		58,978	2,739	2,9	0,053	NA	NA	2,475	5,428	**67,145**				84,9854	
1985	19,325	16,98	18,992		57,502	4,076	2,97	0,097	(s)	(s)	3,016	6,084	**67,661**				82,8140	
1990	22,488	18,326	15,571		58,523	6,104	3,046	0,171	0,059	0,029	2,735	6,04	**70,668**	0,08	0,04	0,12	80,8334	
1995	22,13	19,082	13,887		57,496	7,075	3,205	0,152	0,068	0,033	3,099	6,557	**71,129**	0,10	0,05	0,14	80,4072	
2000	22,735	19,662	12,358		57,307	7,862	2,811	0,164	0,063	0,057	3,006	6,102	**71,271**	0,09	0,08	0,17	81,5975	
2001	23,547	20,166	12,282		58,485	8,029	2,242	0,164	0,062	0,07	2,624	5,162	**71,675**	0,09	0,10	0,18	80,3604	
2002	22,732	19,382	12,16		56,777	8,145	2,689	0,171	0,06	0,105	2,705	5,731	**70,653**	0,08	0,15	0,23	80,1073	
2003	22,094	19,633	11,96		55,983	7,96	2,793	0,173	0,058	0,113	2,805	5,942	**69,885**	0,08	0,16	0,24	79,6420	
2004	22,852	19,074	11,55		55,884	8,223	2,688	0,178	0,058	0,142	2,996	6,063	**70,169**	0,08	0,20	0,29	79,2698	
2005	23,185	18,556	10,974		54,995	8,161	2,703	0,181	0,058	0,178	3,101	6,221	**69,377**	0,08	0,26	0,34	79,0585	
2006	23,79	19,022	10,767		55,877	8,215	2,869	0,181	0,061	0,264	3,212	6,586	**70,678**	0,09	0,37	0,46	79,0168	
2007	23,493	19,786	10,741		56,369	8,459	2,446	0,186	0,066	0,341	3,472	6,51	**71,338**	0,09	0,48	0,57	78,6479	
2008	23,851	20,703	10,613		57,527	8,426	2,511	0,192	0,074	0,546	3,868	7,192	**73,145**	0,10	0,75	0,85	77,9866	
2009	21,624	21,139	11,34		56,612	8,355	2,669	0,2	0,078	0,721	3,957	7,625	**72,592**	0,11	0,99	1,10	77,6416	
2010	22,038	21,806	11,61		58,159	8,434	2,539	0,208	0,091	0,923	4,553	8,314	**74,907**	0,12	1,23	1,35	77,4993	
2011	22,221	23,406	11,996		60,513	8,269	3,103	0,212	0,112	1,168	4,704	9,3	**78,082**	0,14	1,50	1,64	78,6102	
2012	20,677	24,61	13,837		62,286	8,062	2,629	0,212	0,159	1,34	4,547	8,886	**79,234**	0,20	1,69	1,89	78,4169	
2013	20,001	24,859	15,862		64,174	8,244	2,562	0,214	0,225	1,601	4,816	9,418	**81,837**	0,27	1,96	2,23	79,3604	
2014	20,286	26,718	18,602		69,611	8,338	2,467	0,214	0,338	1,728	5,02	9,767	**87,715**	0,39	1,97	2,36	79,5297	
2015	17,946	28,067	19,696		70,185	8,337	2,321	0,212	0,427	1,777	4,992	9,729	**88,25**	0,48	2,01	2,50	77,6323	
2016	14,667	27,576	18,512		65,42	8,427	2,472	0,21	0,57	2,096	5,075	10,423	**84,269**	0,68	2,49	3,16	77,7234	
2017	15,625	28,289	19,535		68,437	8,419	2,767	0,21	0,777	2,343	5,099	11,196	**88,052**	0,88	2,66	3,54	79,1395	
2018	15,363	31,69	22,89	5,727	75,67	8,438	2,663	0,209	0,916	2,482	5,238	11,508	95,616	0,96	2,60	3,55	80,1093	
2019	14,268	34,902	25,44	6,337	80,948	8,462	2,492	0,209	1,043	2,732	5,161	11,637	101,047	1,03	2,70	3,74	80,1093	11,5164231


carbon emissions (million tonnes of co2)
35000
34000
33000
32000
31000
30000
29000
28000
27000
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
Vertical (Value) Axis Major Gridlines

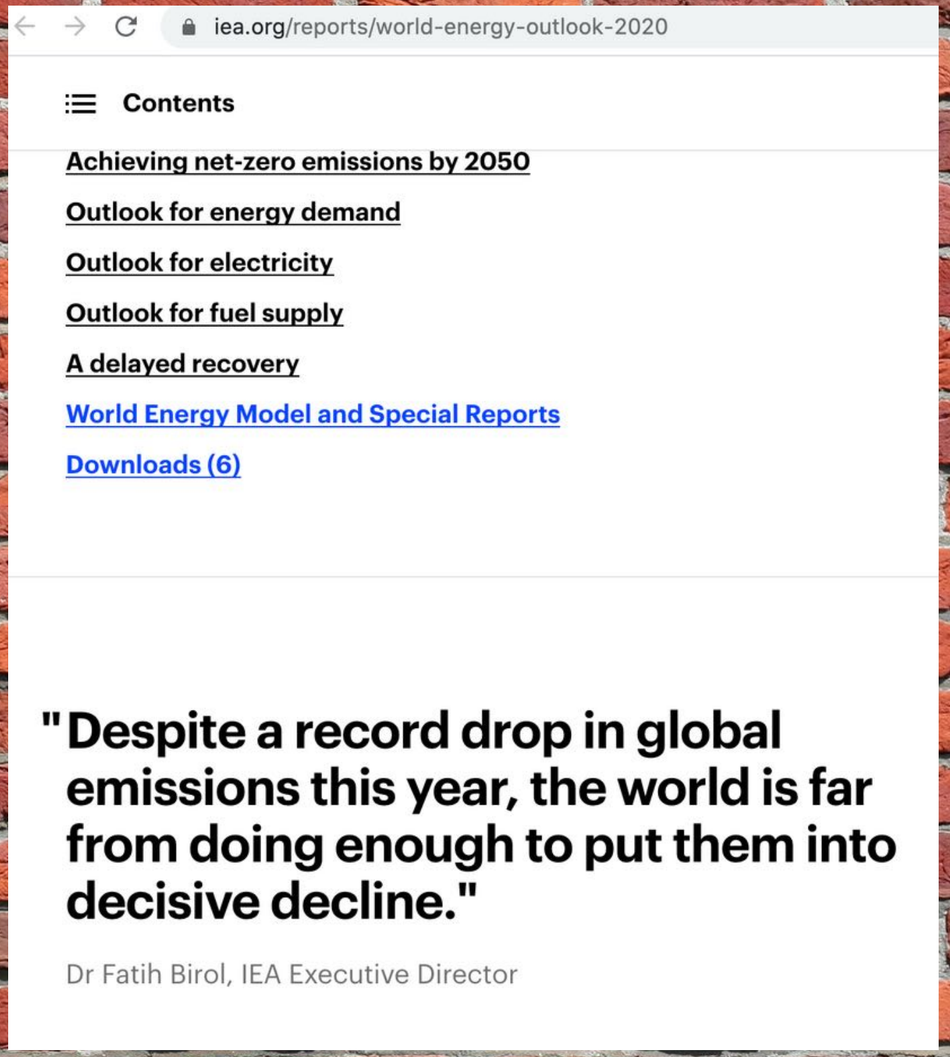
the three-fall effect

Falling bidding prices →

falling rates of profit →

Declining investment in renewables →

PRIVATE RENEWABLE ENERGY HAS HIT A BRICK WALL

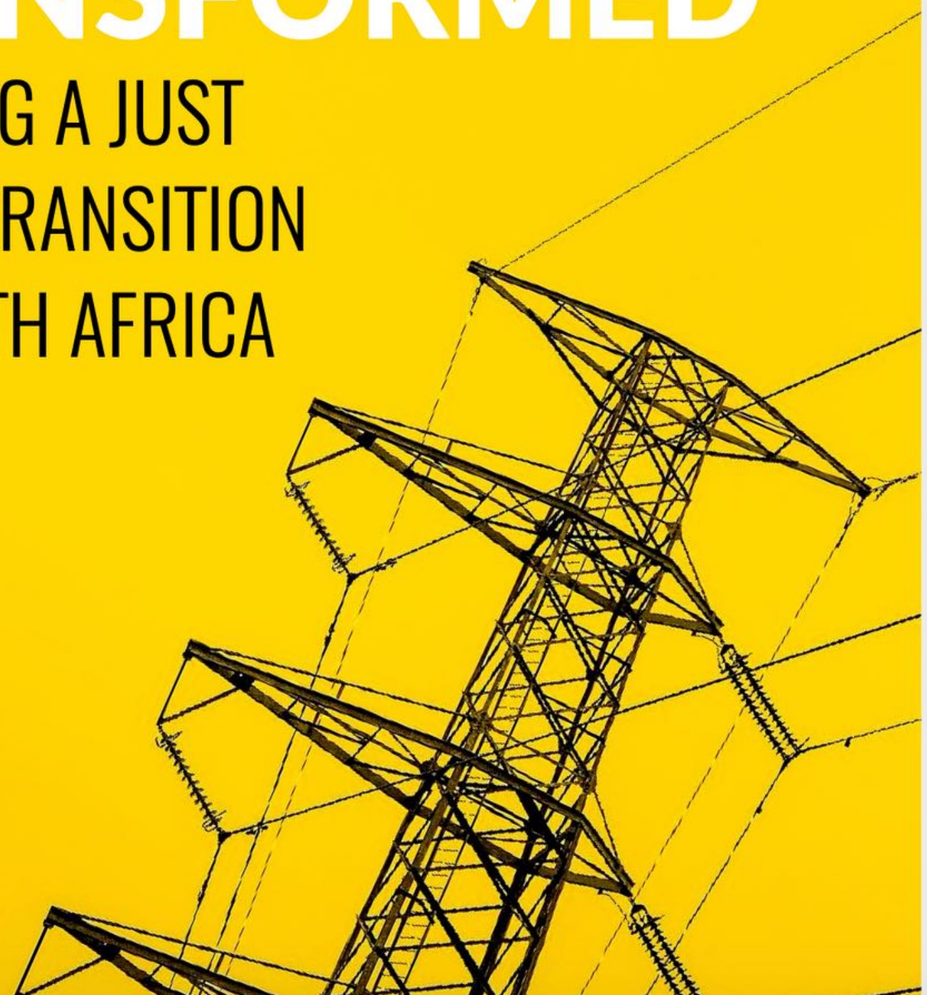


Lessons for South Africa's Energy transition

eskom research reference group

ESKOM TRANSFORMED

ACHIEVING A JUST ENERGY TRANSITION FOR SOUTH AFRICA



NOVEMBER 2020 | TIPS WEBINAR