



DTEK Critical Needs

as of November 3rd, 2022

D.TEK Energy
in action





Item	Description	Total Quantity Needed	Quantity for Financing	Indicative price per Unit, USD	Total indicative price, USD	Source of Finance
Transformers	Three-phase autotransformer 240000/330/220, or similar (Rated voltage of windings, HV - 330 kV, MV - 220 kV, LV - 38.5kV, Rated power: 240 MVA, Frequency, Hz: 50, with forced circulation of oil and air, lightning-proof, outdoor)	1	1	3 120 000	3 120 000	TBD
	Single phase autotransformer 210000/400/330-73, or similar (Rated voltage of windings, HV - 400 kV, MV - 330 kV, LV - 35 kV, Rated power: 240 MVA. Frequency, Hz: 50, with forced circulation of oil and air and on-load tap-changer)	2	2	2 730 000	5 460 000	TBD
	Single phase autotransformer 133000/400/220, or similar (Rated voltage of windings, HV - 400 kV, MV - 220 kV, LV - 35 kV, Rated power: 133 MVA. Frequency, Hz: 50, with forced circulation of oil and air, lightning-proof)	1	1	1 729 000	1 729 000	TBD
	Current transformer 2000/1, U=330 kV, accuracy class 0.2S, IEC 61869	27	27	17 000	459 000	World Bank
	Current transformer 1200/1, U=220 kV, accuracy class 0.2S, IEC 61869	10	10	15 000	150 000	World Bank
	Current transformer 1200/5, U=154 kV, accuracy class 0.2S, IEC 61869	16	16	13 000	208 000	World Bank
	Current transformer 1200/5, U=110 kV, accuracy class 0.2S, IEC 61869	19	19	11 000	209 000	World Bank
	Voltage transformer U1=400/√3 kV, U2=100/√3 V, accuracy class 0,2, IEC 61869	3	3	45 000	135 000	World Bank
	Voltage transformer U1=330/√3 kV, U2=100/√3 V, accuracy class 0,2, IEC 61869	6	6	22 500	135 000	World Bank
	Voltage transformer U1=220/√3 kV, U2=100/√3 V, accuracy class 0,2, IEC 61869	3	3	30 000	90 000	World Bank
Voltage transformer U1=150/√3 kV, U2=100/√3 V, accuracy class 0,2, IEC 61869	3	3	28 000	84 000	World Bank	
Voltage transformer U1=110/√3 kV, U2=100/√3 V, accuracy class 0,2, IEC 61869	3	3	28 000	84 000	World Bank	
Circuit breakers and disconnectors	SF6 LTB 420E2/330kV/4000/40kA	13	13	141 699	1 842 093	World Bank
	SF6 HPL245B1/220kV/4000/50kA	5	5	125 000	625 000	World Bank
	SF6 LTB 170D1/154kV/3150/40kA	6	6	100 000	600 000	World Bank
	SF6 HPL145B1/110kV/4000A/40kA	7	7	90 000	630 000	World Bank
	4000 A - 160 kA peak - 63 kA/3sec (various voltage class)	51	9	45 000	405 000	World Bank
			42	45 000	1 890 000	TBD
3150 A - 125 kA peak - 50 kA/3sec.	20	9	38 333	344 997	World Bank	
		11	38 333	421 663	TBD	
Other positions	Bushings for AT (RIP bushings with silicone composite insulator): 400 kV	9	9	50 000	450 000	TBD
	Bushings for AT (RIP bushings with silicone composite insulator): 245 kV	7	7	40 000	280 000	TBD
	Transformer Oil (T-1500 or similar oil)	60000 kg	60000 kg	2,2	129 000	TBD

Total: 19 480 753



Item	Description	Total Quantity Needed	Quantity for Financing	Indicative price per Unit, USD	Total indicative price, USD	Source of Finance
Mobile Substation	Mobile substation 154 (110) kV (40 kVA transformer + set of switchgear 110, 35, 10, 6 kV)	3	3	2 500 000	7 500 000	TBD
Complete secondary substation	Complete secondary substation (2x630 kVA) with transformers	30	30	70 000	1 650 000	TBD
Transformers	Power transformer 63 MVA 150/35/10 kV	1	1	1 055 000	1 055 000	TBD
	Power transformer 40 MVA 150/35/10 kV	2	2	940 000	1 880 000	TBD
	Power transformer 80 MVA 110/35/10 kV	1	1	1 190 000	1 190 000	TBD
	Power transformer 63 MVA 110/35/10 kV	4	4	1 055 000	4 220 000	TBD
	Power transformer 40 MVA 110/35/10 kV	3	3	833 000	2 499 000	TBD
	Power transformer 40 MVA 110/10/10 kV	1	1	777 000	777 000	TBD
	Power transformer 25 MVA 110/35/10 kV	2	2	720 000	1 440 000	TBD
	Power transformer 25 MVA 110/10/10 kV	1	1	695 000	695 000	TBD
	Power transformer 16 MVA 110/35/10 kV	2	2	550 000	1 100 000	TBD
	Power transformer 10 MVA 110/35/10 kV	2	2	472 000	944 000	TBD
	Power transformer 16 MVA 35/10 kV	3	3	330 000	990 000	TBD
	Power transformer 10 MVA 35/10 kV	3	3	220 000	660 000	TBD
	Power transformer 6,3 MVA 35/10 kV	1	1	190 000	190 000	TBD
	Power transformer 4 MVA 35/10 kV	1	1	166 000	166 000	TBD
Joints	Medium Voltage Transition Joint (POLJ 24) 1x120 - 1x800 mm	754	754	279	210 000	TBD
	Power Cable Termination (POLT 24) 1x120 - 1x800 mm	502	502	414	208 000	TBD
Other positions	Circuit breaker 110 kV, SF6	24	24	24 976	599 424	TBD
	Circuit breaker 35 kV, vacuum 35-20-1600	19	19	23 000	437 000	TBD
	Conical reinforced concrete pole for OHL (22m)	16	16	2 875	46 004	TBD
	Power Cable 6-10 kV with XLPE Isolation 1x120 - 1x800 mm	102 km	102	30 127	3 073 000	TBD
	Steel-aluminum wire 120-400 mm ²	567 tones	567	4 877	2 765 259	TBD
Total:					34 294 687	