

Generation Companies

Employed assets + economic profit

November 26, 2008

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Centrenergo

Bloomberg	CEEN UZ
Xetra	DBG
DR Ratio	1:10
Shares, mln	369.4
Ownership	
State (NC ECU)	78.3%
Other	21.7%
Free float, %	21.7%
Free float, USD mln	64.7

Dniproenergo

Bloomberg

хетга	DPG
DR Ratio	4:1
Shares, mln	5.97
Ownership	
State (NC ECU)	50.0%
DTEK	46.0%
Other	4.0%
Free float, %	4.0%
Free float, USD mln	16.3

DNEN UZ

DOEN UZ

Donbasenergo

Bloomberg

Xetra	-
Shares, mln	23.6
Ownership State (NC ECU) Other	85.8% 14.2%
Free float, %	14.2%
Free float, USD mln	13.6

Zakhidenergo

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Bloomberg Xetra	ZAEN UZ WTZ
DR Ratio	4:1
Shares, mln	12.8
Ownership	
State (NC ECU)	70.1%
Other	29.9%
Free float, %	29.9%
Free float, USD mln	196.9

- We revise our valuation approach for GenCos, setting aside DCF modeling (which is sensitive to mid-term assumptions that are highly uncertain in the current market) and valuation by Russian peers. We apply economic profit model instead
- More than 90% of GenCos' intrinsic value is represented by invested capital, calculated based on only the current physical condition of existing generating assets and further discounted to assume any risks related to their use. Even this conservative approach yields more than 180% upsides for three stocks
- The recent drop in demand for power from domestic industry forced us to cut production forecasts for 4Q08-2009; still, we expect GenCos' production to decrease less than nation-wide demand for power, as the brunt of the decline will be borne by Ukraine's nuclear power plants
- Our long-term demand forecasts and view on the role of thermal generation in the future domestic power balance remains intact we stick to our optimistic outlook on GenCos' value creation potential
- We are sticking to our view on DOEN as our top sector pick: the expected commissioning of its CFB coal power unit, the first in the CIS, is the main catalyst

Financial forecasts

	Ne	t rever	nue, USD ml		EBITDA, USD mln					
	2008E	yoy	2009E	yoy	2008E r	margin	2009E	margin		
CEEN	950	40%	1,072	13%	44.3	4.7%	48.4	4.5%		
DNEN	1,022	35%	1,187	16%	66.9	6.5%	75.4	6.3%		
DOEN	433	49%	516	19%	35.4	8.2%	31.2	6.0%		
ZAEN	968	35%	1.169	21%	29.8	3.1%	37.2	3.2%		

Valuation summary

	Price	MCap USD mln	EV	/S	EV/EB	EV/EBITDA		Capacity, SD/kW	Implied price	Implied EV / Coal capacity	Implied upside	Upside effective*	Rec.
	USD	USD mln	2008E	2009E	2008E	2009E	coal units	total capacity	USD USD/kW		•		
CEEN	0.81	298.3	0.4	0.4	9.2	8.4	89	54	3.2	282	295%	274%	BUY
DNEN	68.5	408.7	0.5	0.4	7.0	6.2	81	57	265.5	284	288%	187%	BUY
DOEN	4.0	95.5	0.5	0.5	6.5	7.4	87	87	19.3	224	379%	332%	BUY
ZAEN	51.5	658.5	0.8	0.7	26.8	21.5	173	173	88.0	275	71%	65%	BUY
Average			0.6	0.5	12.4	10.9	108	93					
EM peers			2.9	2.5	12.8	8.5		726	_				
DM peers			1.9	1.8	5.8	5.5		732					

^{*} Refer to our strategy note of Nov. 24, 2008 for the definition and calculation of upside effective (UE)

Source: Company data, Bloomberg, Concorde Capital research



Performance: better than Russian peers

Ukrainian GenCos stock prices have fallen more than those of their global peers, but, not surprisingly, much less than Russian OGKs (refer to our May 2008 GenCos update).

Market price performance YTD

DM Integ	rated	DM Generat	ion	EM Generation	1	RU Gene	eration	UA Gen	eration
CEZ	-56%	Boralex	-64%	China Power	-61%	OGK-1	-94%	CEEN	-81%
E.ON	-51%	Drax Group	-25%	Datang Power	-54%	OGK-2	-93%	DNEN	-79%
EDF	-50%	J-Power	-4%	EGCO	-57%	OGK-3	-92%	DOEN	-85%
Enel	-45%	Int'l Power	-58%	Huadian Power	-62%	OGK-4	-92%	ZAEN	-46%
Iberdrola	-52%	NRG Energy	-48%	NTPC	-46%	OGK-5	-77%		
RWE	-44%			Tractebel	-31%	OGK-6	-92%		
Median	-50%		-48%		-56%		-92%		-80%
Mean	-50%		-40%		-52%		-90%		-73%

Source: Bloomberg, Concorde Capital calculations

Driven down by the market overhang after their free float increased since July 1 (as a result of the RAO UES restructuring), five OGKs shed over 90% YTD and now trade below Ukrainian GenCos on EV/Capacity. The performance of OGK-5, the only company whose free float was unchanged since July 1, is close to Ukrainian peers.

While it appears as if the Russian generation sector's long-term growth potential is greater, investing in Ukrainian stocks look safer in the short-term as the oversupply of OGK shares is likely to continue depressing their prices.

EV/Capacity, USD/kW

E t / Capacit	<i>,</i>						
DM Generation		EM Generation	RU Gen	eration	UA Gene	UA Generation*	
Boralex	886	China Power	306	OGK-1	111	CEEN	89
Drax Group	853	Datang Power	1,142	OGK-2	62	DNEN	81
J-Power	897	EGCO	275	OGK-3	(188)**	DOEN	87
Int'l Power	530	Huadian Power	543	OGK-4	57	ZAEN	173
NRG Energy	497	NTPC	896	OGK-5	234		
		Tractebel	902	OGK-6	77		
Median	853		719		77		88
Mean	732		677		108		108

^{*} Based on coal-fueled capacity; ** Outlier Source: Bloomberg, RTS, PFTS, company data

Given their market-specifics, we believe OGKs are a poor benchmark for valuing Ukrainian GenCos.

Market multiples

	EV	EV/S		BITDA	EV/Capacity
	2008	2009	2008	2009	USD/kW
Boralex	1.8	2.0	5.3	5.1	886
Drax Group	1.5	1.4	5.0	4.9	853
International Power	2.2	1.9	5.9	5.1	530
NRG Energy	1.9	2.1	4.9	5.1	497
J-Power	1.9	1.7	8.0	7.2	897
DM peers average	1.9	1.8	5.8	5.5	732
EGCO	2.8	2.0	4.0	4.1	275
China Power	1.7	1.4	13.5	6.9	306
Datang Power	3.9	3.3	16.8	11.2	1142
Huadian Power	2.0	1.6	17.0	8.3	543
Huaneng Power	2.4	2.1	20.9	11.5	747
NTPC	3.1	2.9	10.5	10.0	896
CR-Power	3.1	2.5	13.1	9.0	882
Tractebel	4.2	4.1	6.7	6.8	1019
EM peers average	2.9	2.5	12.8	8.5	726
CEEN	0.4	0.4	9.2	8.4	89
DNEN	0.5	0.4	7.0	6.2	81
DOEN	0.5	0.4	6.5	7.4	87
ZAEN	0.8	0.7	26.8	21.5	173
UA average	0.6	0.5	12.4	10.9	108
Premium/discount to	EM peer a	verage			
CEEN	-85%	-83%	-31%	-3%	-88%
DNEN	-84%	-83%	-47%	-28%	-89%
DOEN	-82%	-80%	-51%	-15%	-88%
ZAEN	-72%	-70%	101%	147%	-76%
Source: Plaambara DTS DE	TS company	data Concord	to Capital actin	matos	

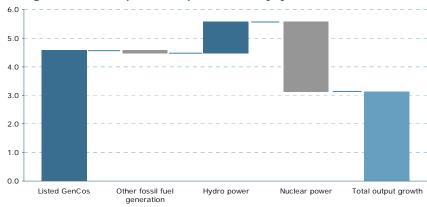
Source: Bloomberg, RTS, PFTS, company data, Concorde Capital estimates



GenCos' power production growth exceeded Ukraine's consumption growth

The four listed GenCos raised power production by 4.6 TWh (+12.3%) yoy in 9M08, more than our expectations, on the background of an increase in total domestic power production by only 3.1 TWh (+2.3%) yoy. The rise was the result of unplanned growth in demand for thermal capacities in July-October 2008 due to a technical failure at the Khmelnitsk Nuclear Power Plant.

Change in Ukraine's power output in 9M08, yoy, TWh



Note: Blue indicates a rise in power output; and gray a decline during the period Source: EnergoBiznes, Concorde Capital calculations

We believe that GenCos' production growth will remain above the sector's in the mid to long-term: as we wrote before (refer to our May 2008 GenCos update), nuclear capacities are almost fully utilized, so fossil fuel producers will cover most of the growth in domestic electricity demand.

Moreover, we expect only a minor impact on TPPs from the short-term decline in power demand from the energy-intensive industrial sector. The brunt, which effectively decreases base-load demand, will instead be borne by nuclear power plants, who will ramp down their stable production regimes.

Nevertheless, we predict power production at GenCos will decrease yoy in 4Q08 and in 2009.

Power output, TWh

. 0000	. outpe	,									
9M08				2008E				2009E			
			Old	Old		New		Old		W	
	TWh	yoy	TWh	yoy	TWh	yoy	TWh	yoy	TWh	yoy	
CEEN	12.2	21%	14.4	-4%	16.8	11%	14.6	1%	16.2	-3%	
DNEN	12.9	16%	17.9	8%	17.8	7%	19.2	7%	17.7	-1%	
DOEN	5.3	11%	7.4	9%	7.2	5%	8.0	8%	7.2	0%	
ZAEN	11.2	2%	16.4	8%	15.4	2%	17.0	4%	15.5	1%	
Source:	Source: EnergoBiznes, Concorde Capital estimates										



Financials: profits are decreasing

All Ukrainian generation companies reported lower profitability in 9M08. This was the result of the market regulator's practice of minimizing electricity price growth amid the background of increasing coal and gas prices.

An additional factor that spoiled profitability was the unexpected stoppage at Khmelnitsk NPP, which had two negative outcomes for GenCos' profitability:

- failure reduced the share of cheap nuclear power in the total domestic power balance, raising the wholesale price and forcing the regulator make additional constraints on GenCos' tariff growth
- the increased load on thermal power plants led to escalated demand for coal, putting short-term upward pressure on coal prices

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	Net revenue		EBITDA			Net income			
	9M08	yoy	9M08	yoy	margin	9N	108	yoy	margin
CEEN	691.3	59%	38.1	-16%	6%	1	8.6	76%	3%
DNEN	712.1	44%	59.6	8%	8%	1	3.9	-1%	2%
DOEN	310.8	53%	33.5	-11%	11%	1	2.9	-40%	4%
ZAEN	687.5	32%	26.1	-12%	4%	-	4.0	neg.	-1%
Source: C	omnany data	a						-	

We expect a slight decrease in energy coal prices by the end 2008, which will reduce fuel costs for GenCos. Still, this positive effect on their earnings is most likely to be offset by limited growth in GenCos' tariffs, making FY08 profitability even lower than over 9M08. We do not expect changes in the tariff policy with respect to GenCos in 2009: we believe fighting inflation will remain a higher priority for the government and the sector regulator.

Financial forecast revisions

Net reve	enue, USD mi	ln				
	-		2	2008E		2009E
	2006	2007	Old	New	Old	New
CEEN	525	679	847	952	954	1,064
DNEN	551	758	1,051	1,016	1,267	1,174
DOEN	272	291	430	429	506	505
ZAEN	617	716	1,005	968	1,189	1,165
EBITDA,	USD mln					
				2008E	2	2009E
	2006	2007	Old	New	Old	New
CEEN	69.8	67.0	74.0	44.3	89.6	47.9
DNEN	56.6	79.6	104.2	66.9	134.9	75.0
DOEN	28.9	32.7	38.3	35.4	44.9	30.6
ZAEN	43.0	45.9	63.2	29.8	80.6	37.0
EBITDA	margin					
				2008E	2	2009E
	2006	2007	Old	New	Old	New
CEEN	13%	10%	9%	5%	9%	5%
DNEN	10%	11%	10%	7%	11%	6%
DOEN	11%	11%	9%	8%	9%	6%
ZAEN	7%	6%	6%	3%	7%	3%
Source: Co	mpany data, Co	ncorde Capi	tal estimates			



Valuation revision

We do not foresee any improvements in GenCos' profitability in the short-term. However, improvements in the mid to long-term are inevitable, given the growing role of thermal generation in Ukraine's energy balance (with the clock ticking until NPPs' decommissioning dates, beginning in 2011) and the waning peak capacity reserve in the energy system. We also believe that wholesale energy market reform, scheduled for 2009-2014 (though highly likely to be postponed for at least two years), set to liberalize the generation market, will allow GenCos to generate value for shareholders in the long-term.

Due to mid-term uncertainties related to the tariff policy and GenCos' profitability, we set aside DCF modeling (which is very sensitive to mid-term financial forecasts) in estimating GenCos' fair value. We believe an economic profit (EP) model is a more appropriate valuation instrument in this case:

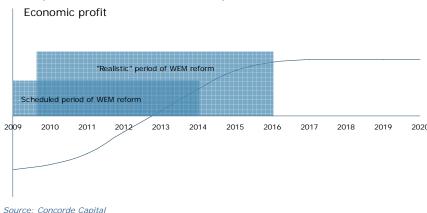
Fair value = Invested capital + NPV of future economic profits

We concentrate on two periods for valuating GenCos by EP model:

- At present (via accounting for invested capital)
- Long-term prospects, after the wholesale market reform is finished and GenCos fully benefit from market liberalization (via terminal value)

For the uncertain mid-term, we simply assume that the present value of negative economic profits in the nearest few years will be fully offset by the present value of positive economic profits in forthcoming years. In other words, for valuation purposes, we take the sum of discounted economic profits for 2009-2020 as zero.

Assumption: sum of PV of economic profits for 2009-2020 is zero



Our valuation is based on the following equation:

Fair value =

- = Invested capital in 2009
- + sum of PV of economic profits 2009-2020, taken as zero
- + PV of terminal economic profit



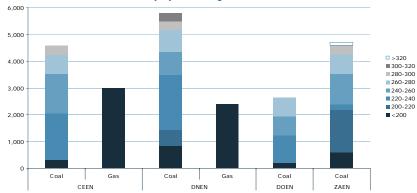
Estimation of initial invested capital

We estimate GenCos' invested capital as the replacement value of their generation assets netted by accumulated depreciation as of the beginning of 2009. We use a units-of-time deprecation method to mitigate accounting distortions in the value of accumulated deprecation on the balance sheet.

Basic assumptions:

- Replacement cost in 2008 is USD 1,500/kW
- Accumulated depreciation, calculated by a **units-of-time deprecation method**, is based on an assumption of **280,000** hrs as the **full service life** of a generation unit. The number was chosen for the purpose of conservatism: blocks that have worked more than 280,000 hrs account for 7.5% of four GenCos' electricity output for 9M08.





^ As or Jan. 1, 2008 Source: NC ECU, company data, Concorde Capital calculations

Adjustments to invested capital:

- We take only coal-fired power units to calculate initial invested capital. We use this conservative assumption (it reduces initial invested capital for CEEN by 2.9x, and for DNEN by 2.2x), as we do not believe gas-fired power units have a chance of being put into operation in the mid-term
- Conservatively, we apply a 25% discount to the value of DOEN's Slavyansk TPP: the plant operates only one power unit, and thus is subject to frequent technical failures
- Conservatively, we apply a 25% discount to the value of DOEN's Starobeshev TPP unit #4: this newly reconstructed unit with CFB technology has not been commissioned yet. The absence of experience in running this type of equipment in Ukraine may imply risks

Summary: invested capital estimation

	Installed	capacity	Depreciate	d capacity	Invested capital		
	G\	GW		V	USD mln		
	total	coal-fired	total	coal-fired	total	adjusted	
CEEN	7.58	4.58	2.24	0.78	3,364	1,175	
DNEN	8.19	5.79	2.25	1.02	3,378	1,530	
DOEN	2.65	2.65	0.45	0.45	669	569	
ZAEN	4.6	4.6	0.82	0.82	1,223	1,223	
Source: NC Fi	CII company d	ata Concorde (Capital estimate	S			

A list of assumptions for terminal value is provided in the appendix.



Valuation results, USD mln

	Initial invested capital	Discounted terminal EP	Implied EV	Implied EV pcapacity,	oer Installed USD/KW total	Implied MCap	Implied share price,	Upside	Upside effective*	Rec.
CEEN		110	1 200			1 177	03D	2050/	2740/	DLIV
CEEN	1,175	113	1,288	282	170	1,177		295%	274%	BUY
DNEN	1,530	114	1,643	284	201	1,584	265.5	288%	187%	BUY
DOEN	569	22	592	224	224	457	19.3	379%	332%	BUY
ZAEN	1,223	41	1,264	275	275	1,125	88.0	71%	65%	BUY

^{*} Upside effective (UE) is calculated as: UE = Upside - Spread - Upside Spread (refer to our strategy note of Nov. 24, 2008); spread is taken as a 3-month average
Source: NC ECU, company data, PFTS, Concorde Capital research

Sensitivity analysis: share price, USD													
Service life of power unit					055		Infl	ation in	equipm	ent price	es		
CEEN		240	260	ths hrs 280	300	320	CEE	: IVI	3.0%	4.0%	5.0%	6.0%	7.0%
℧ _	-1%	0.9	1.7	2.6	3.5	4.3	>	1,200	2.4	2.5	2.5	2.5	2.6
Economic spread (ROIC - WACC) in perpetuity	0%	1.1	1.9	2.9	3.8	4.7	Current replacement value, USD/KW	1,300	2.7	2.7	2.7	2.8	2.8
D A O I	1%	1.4	2.2	3.2	4.2	5.1	Current olaceme Je, USD,	1,400	2.9	2.9	3.0	3.0	3.0
et W	2%	1.6	2.5	3.5	4.5	5.5	e ie	1,500	3.1	3.2	3.2	3.2	3.3
ig ', g	3%	1.8	2.7	3.8	4.9	5.9	lac e,	1,600	3.4	3.4	3.4	3.5	3.5
pe ed	4%	2.0	3.0	4.1	5.2	6.3	o de p	1,700	3.6	3.6	3.7	3.7	3.7
conomic spres ROIC - WACC in perpetuity	5%	2.2	3.2	4.4	5.6	6.7	2 %	1,800	3.8	3.8	3.9	3.9	4.0
E C	•							·					
		Se	ervice lif	e of pov	ver unit								
DNE	N		ths hrs				DNE	ΞN	Inti	ation in	equipm	ent price	es
	_	240	260	280	300	320		_	3.0%	4.0%	5.0%	6.0%	7.0%
ad	-1%	96	159	227	296	363	≠ ≥	1,200	207	209	210	212	214
5 S 5	0%	109	175_	247	318	388	e t	1,300	225	227	229	231	233
sp VA	1%	121	191	266	340	413	en SE	1,400	244	245	247	249	252
ة - ر	2%	134	207	285	362	438	Current placeme Je, USD,	1,500	262	263	266	268	270
E C E	3%	147	222	304	384	463	Current replacement alue, USD/kV	1,600	280	282	284	286	289
conomic sprea (ROIC - WACC) in perpetuity	4%	160	238	323	406	488	Current replacement value, USD/KW	1,700	298	300	302	305	308
Economic spread (ROIC - WACC) in perpetuity	5%	172	254	342	428	513	>	1,800	316	318	321	323	326
_		Se	ervice lif		ver unit				Infl	ation in	equipm	ent nrice	25
DOE	N			ths hrs			DOI	-NI			equipm		
DOE	_	240	260	ths hrs 280	300	320	DOI	F	3.0%	4.0%	5.0%	6.0%	7.0%
DOE	-1%	240 4.3	260 9.4	ths hrs 280 17.4	300 25.5	32.5		1,200	3.0% 14.2	4.0% 14.3	5.0% 14.3	6.0%	7.0% 14.5
DOE	-1% 0%	240 4.3 4.7	260 9.4 10.0	ths hrs 280 17.4 18.4	300 25.5 26.8	32.5 34.1		1,200 1,300	3.0% 14.2 15.8	4.0% 14.3 15.9	5.0% 14.3 16.0	6.0% 14.4 16.1	7.0% 14.5 16.2
DOE	-1% 0% 1%	240 4.3 4.7 5.2	9.4 10.0 10.7	ths hrs 280 17.4 18.4 19.3	300 25.5 26.8 28.0	32.5 34.1 35.6		1,200 1,300 1,400	3.0% 14.2 15.8 17.5	4.0% 14.3 15.9 17.6	5.0% 14.3 16.0 17.7	6.0% 14.4 16.1 17.8	7.0% 14.5 16.2 17.9
DOE	-1% 0% 1% 2%	240 4.3 4.7 5.2 5.6	260 9.4 10.0 10.7 11.3	17.4 18.4 19.3 20.3	300 25.5 26.8 28.0 29.3	32.5 34.1 35.6 37.1		1,200 1,300 1,400 1,500	3.0% 14.2 15.8 17.5 19.1	4.0% 14.3 15.9 17.6 19.2	5.0% 14.3 16.0 17.7 19.3	6.0% 14.4 16.1 17.8 19.5	7.0% 14.5 16.2 17.9 19.6
DOE	-1% 0% 1% 2% 3%	240 4.3 4.7 5.2 5.6 6.0	260 9.4 10.0 10.7 11.3 11.9	17.4 18.4 19.3 20.3 21.2	300 25.5 26.8 28.0 29.3 30.5	32.5 34.1 35.6 37.1 38.7		1,200 1,300 1,400 1,500 1,600	3.0% 14.2 15.8 17.5 19.1 20.8	4.0% 14.3 15.9 17.6 19.2 20.9	5.0% 14.3 16.0 17.7 19.3 21.0	6.0% 14.4 16.1 17.8 19.5 21.1	7.0% 14.5 16.2 17.9 19.6 21.3
DOE	-1% 0% 1% 2% 3% 4%	240 4.3 4.7 5.2 5.6 6.0 6.5	260 9.4 10.0 10.7 11.3 11.9 12.6	ths hrs 280 17.4 18.4 19.3 20.3 21.2 22.2	300 25.5 26.8 28.0 29.3 30.5 31.8	32.5 34.1 35.6 37.1 38.7 40.2	in KW	1,200 1,300 1,400 1,500 1,600 1,700	3.0% 14.2 15.8 17.5 19.1 20.8 22.5	4.0% 14.3 15.9 17.6 19.2 20.9 22.6	5.0% 14.3 16.0 17.7 19.3 21.0 22.7	6.0% 14.4 16.1 17.8 19.5 21.1 22.8	7.0% 14.5 16.2 17.9 19.6 21.3 23.0
_	-1% 0% 1% 2% 3%	240 4.3 4.7 5.2 5.6 6.0	260 9.4 10.0 10.7 11.3 11.9	17.4 18.4 19.3 20.3 21.2	300 25.5 26.8 28.0 29.3 30.5	32.5 34.1 35.6 37.1 38.7		1,200 1,300 1,400 1,500 1,600	3.0% 14.2 15.8 17.5 19.1 20.8	4.0% 14.3 15.9 17.6 19.2 20.9	5.0% 14.3 16.0 17.7 19.3 21.0	6.0% 14.4 16.1 17.8 19.5 21.1	7.0% 14.5 16.2 17.9 19.6 21.3
DOE	-1% 0% 1% 2% 3% 4%	240 4.3 4.7 5.2 5.6 6.0 6.5 6.9	260 9.4 10.0 10.7 11.3 11.9 12.6 13.2	ths hrs 280 17.4 18.4 19.3 20.3 21.2 22.2 23.1	300 25.5 26.8 28.0 29.3 30.5 31.8 33.1	32.5 34.1 35.6 37.1 38.7 40.2		1,200 1,300 1,400 1,500 1,600 1,700	3.0% 14.2 15.8 17.5 19.1 20.8 22.5 24.1	4.0% 14.3 15.9 17.6 19.2 20.9 22.6 24.2	5.0% 14.3 16.0 17.7 19.3 21.0 22.7 24.3	6.0% 14.4 16.1 17.8 19.5 21.1 22.8 24.5	7.0% 14.5 16.2 17.9 19.6 21.3 23.0 24.6
Economic spread (ROIC - WACC) C in perpetuity	-1% 0% 1% 2% 3% 4% 5%	240 4.3 4.7 5.2 5.6 6.0 6.5 6.9	260 9.4 10.0 10.7 11.3 11.9 12.6 13.2	ths hrs 280 17.4 18.4 19.3 20.3 21.2 22.2 23.1	300 25.5 26.8 28.0 29.3 30.5 31.8 33.1	32.5 34.1 35.6 37.1 38.7 40.2	Current replacement value, USD/kW	1,200 1,300 1,400 1,500 1,600 1,700 1,800	3.0% 14.2 15.8 17.5 19.1 20.8 22.5 24.1	4.0% 14.3 15.9 17.6 19.2 20.9 22.6 24.2	5.0% 14.3 16.0 17.7 19.3 21.0 22.7	6.0% 14.4 16.1 17.8 19.5 21.1 22.8 24.5	7.0% 14.5 16.2 17.9 19.6 21.3 23.0 24.6
DOE	-1% 0% 1% 2% 3% 4% 5%	240 4.3 4.7 5.2 5.6 6.0 6.5 6.9	260 9.4 10.0 10.7 11.3 11.9 12.6 13.2	ths hrs 280 17.4 18.4 19.3 20.3 21.2 22.2 23.1	300 25.5 26.8 28.0 29.3 30.5 31.8 33.1	32.5 34.1 35.6 37.1 38.7 40.2		1,200 1,300 1,400 1,500 1,600 1,700 1,800	3.0% 14.2 15.8 17.5 19.1 20.8 22.5 24.1	4.0% 14.3 15.9 17.6 19.2 20.9 22.6 24.2 ation in	5.0% 14.3 16.0 17.7 19.3 21.0 22.7 24.3	6.0% 14.4 16.1 17.8 19.5 21.1 22.8 24.5	7.0% 14.5 16.2 17.9 19.6 21.3 23.0 24.6
Economic spread (ROIC - WACC) in perpetuity	-1% 0% 1% 2% 3% 4% 5%	240 4.3 4.7 5.2 5.6 6.0 6.5 6.9 \$6.9	260 9.4 10.0 10.7 11.3 11.9 12.6 13.2	ths hrs 280 17.4 18.4 19.3 20.3 21.2 22.2 23.1 fe of powths hrs	300 25.5 26.8 28.0 29.3 30.5 31.8 33.1	32.5 34.1 35.6 37.1 38.7 40.2 41.7	Current replacement value, USD/kW	1,200 1,300 1,400 1,500 1,600 1,700 1,800	3.0% 14.2 15.8 17.5 19.1 20.8 22.5 24.1	4.0% 14.3 15.9 17.6 19.2 20.9 22.6 24.2 ation in 4.0% 67.9	5.0% 14.3 16.0 17.7 19.3 21.0 22.7 24.3	6.0% 14.4 16.1 17.8 19.5 21.1 22.8 24.5	7.0% 14.5 16.2 17.9 19.6 21.3 23.0 24.6
Economic spread (ROIC - WACC) in perpetuity	-1% 0% 1% 2% 3% 4% 5%	240 4.3 4.7 5.2 5.6 6.0 6.5 6.9 \$6.9 240 28.4 29.8	260 9.4 10.0 10.7 11.3 11.9 12.6 13.2 Pervice lift 260 52.3 54.5	ths hrs 280 17. 4 18. 4 19. 3 20. 3 21. 2 22. 2 23. 1 Se of pouts hs hrs 280 81. 6 84. 8	300 25.5 26.8 28.0 29.3 30.5 31.8 33.1 ver unit 300 109.0 113.1	32.5 34.1 35.6 37.1 38.7 40.2 41.7	Current replacement value, USD/kW	1,200 1,300 1,400 1,500 1,600 1,700 1,800 1,200 1,300	3.0% 14.2 15.8 17.5 19.1 20.8 22.5 24.1 Infl 3.0% 67.7 74.2	4.0% 14.3 15.9 17.6 19.2 20.9 22.6 24.2 ation in 4.0% 67.9 74.5	5.0% 14.3 16.0 17.7 19.3 21.0 22.7 24.3 equipme 5.0% 68.2 74.8	6.0% 14.4 16.1 17.8 19.5 21.1 22.8 24.5 ent price 6.0% 68.5 75.1	7.0% 14.5 16.2 17.9 19.6 21.3 23.0 24.6 7.0% 68.9 75.5
Economic spread (ROIC - WACC) in perpetuity	-1% 0% 1% 2% 3% 4% 5% N	240 4.3 4.7 5.2 5.6 6.0 6.5 6.9 \$6.9 240 28.4 29.8 31.1	260 9.4 10.0 10.7 11.3 11.9 12.6 13.2 ervice lif 260 52.3 54.5 56.7	ths hrs 280 17.4 18.4 19.3 20.3 21.2 22.2 23.1 fe of poutths hrs 280 81.6 84.8 88.0	300 25.5 26.8 28.0 29.3 30.5 31.8 33.1 ver unit 300 109.0 113.1 117.3	32.5 34.1 35.6 37.1 38.7 40.2 41.7 320 134.1 139.1 144.2	Current replacement value, USD/kW	1,200 1,300 1,400 1,500 1,600 1,700 1,800 1,200 1,300 1,400	3.0% 14.2 15.8 17.5 19.1 20.8 22.5 24.1 Infl 3.0% 67.7 74.2 80.8	4.0% 14.3 15.9 17.6 19.2 20.9 22.6 24.2 ation in 4.0% 67.9 74.5 81.1	5.0% 14.3 16.0 17.7 19.3 21.0 22.7 24.3 equipm: 5.0% 68.2 74.8 81.4	6.0% 14.4 16.1 17.8 19.5 21.1 22.8 24.5 ent price 6.0% 68.5 75.1 81.8	7.0% 14.5 16.2 17.9 19.6 21.3 23.0 24.6 7.0% 68.9 75.5 82.2
Economic spread (ROIC - WACC) in perpetuity	-1% 0% 1% 2% 3% 4% 5% N	240 4.3 4.7 5.2 5.6 6.0 6.5 6.9 \$6 240 28.4 29.8 31.1 32.5	260 9.4 10.0 10.7 11.3 11.9 12.6 13.2 ervice lift 260 52.3 54.5 56.7 58.9	ths hrs 280 17.4 18.4 19.3 20.3 21.2 22.2 23.1 fe of pouts his hrs 280 81.6 84.8 88.0 91.2	300 25.5 26.8 28.0 29.3 30.5 31.8 33.1 ver unit 300 109.0 113.1 117.3 121.5	32.5 34.1 35.6 37.1 38.7 40.2 41.7 320 134.1 139.1 144.2 149.2	Current replacement value, USD/kW	1,200 1,300 1,400 1,500 1,600 1,700 1,800 1,200 1,300 1,400 1,500	3.0% 14.2 15.8 17.5 19.1 20.8 22.5 24.1 Infl 3.0% 67.7 74.2 80.8 87.3	4.0% 14.3 15.9 17.6 19.2 20.9 22.6 24.2 ation in 4.0% 67.9 74.5 81.1 87.6	5.0% 14.3 16.0 17.7 19.3 21.0 22.7 24.3 equipm 5.0% 68.2 74.8 81.4 88.0	6.0% 14.4 16.1 17.8 19.5 21.1 22.8 24.5 ent price 6.0% 68.5 75.1 81.8 88.4	7.0% 14.5 16.2 17.9 19.6 21.3 23.0 24.6 7.0% 68.9 75.5 82.2 88.8
Economic spread (ROIC - WACC) in perpetuity	-1% 0% 1% 2% 3% 4% 5% N	240 4.3 4.7 5.2 5.6 6.0 6.5 6.9 See 240 28.4 29.8 31.1 32.5 33.9	260 9.4 10.0 10.7 11.3 11.9 12.6 13.2 ervice lif 260 52.3 54.5 56.7 58.9 61.1	ths hrs 280 17.4 18.4 19.3 20.3 21.2 22.2 23.1 26 of pow ths hrs 280 81.6 84.8 88.0 91.2 94.4	300 25.5 26.8 28.0 29.3 30.5 31.8 33.1 wer unit 300 109.0 113.1 117.3 121.5 125.7	32.5 34.1 35.6 37.1 38.7 40.2 41.7 320 134.1 139.1 144.2 154.2	Current replacement value, USD/kW	1,200 1,300 1,400 1,500 1,600 1,700 1,800 1,200 1,300 1,400 1,500 1,600	3.0% 14.2 15.8 17.5 19.1 20.8 22.5 24.1 Infl 3.0% 67.7 74.2 80.8 87.3 93.9	4.0% 14.3 15.9 17.6 19.2 20.9 22.6 24.2 ation in 4.0% 67.9 74.5 81.1 87.6 94.2	5.0% 14.3 16.0 17.7 19.3 21.0 22.7 24.3 equipme 5.0% 68.2 74.8 81.4 88.0 94.6	6.0% 14.4 16.1 17.8 19.5 21.1 22.8 24.5 ent price 6.0% 68.5 75.1 81.8 88.4 95.0	7.0% 14.5 16.2 17.9 19.6 21.3 23.0 24.6 7.0% 68.9 75.5 82.2 88.8 95.5
Economic spread (ROIC - WACC) in perpetuity	-1% 0% 1% 2% 3% 4% 5% N -1% 0% 1% 2% 3% 44%	240 4.3 4.7 5.2 5.6 6.0 6.5 6.9 \$6.9 240 28.4 29.8 31.1 32.5 33.9 35.2	260 9.4 10.0 10.7 11.3 11.9 12.6 13.2 ervice lif 260 52.3 54.5 56.7 58.9 61.1 63.3	ths hrs 280 17.4 18.4 19.3 20.3 21.2 22.2 23.1 Te of powths hrs 280 81.6 84.8 88.0 91.2 94.4 97.6	300 25.5 26.8 28.0 29.3 30.5 31.8 33.1 wer unit 300 109.0 113.1 117.3 121.5 125.7 129.8	32.5 34.1 35.6 37.1 38.7 40.2 41.7 320 134.1 139.1 144.2 149.2 154.2 159.3	Current replacement value, USD/kW	1,200 1,300 1,400 1,500 1,600 1,700 1,800 1,200 1,300 1,400 1,500 1,600 1,700	3.0% 14.2 15.8 17.5 19.1 20.8 22.5 24.1 Infl 3.0% 67.7 74.2 80.8 87.3 93.9 100.4	4.0% 14.3 15.9 17.6 19.2 20.9 22.6 24.2 ation in 4.0% 67.9 74.5 81.1 87.6 94.2 100.8	5.0% 14.3 16.0 17.7 19.3 21.0 22.7 24.3 equipme 5.0% 68.2 74.8 81.4 88.0 94.6 101.2	6.0% 14.4 16.1 17.8 19.5 21.1 22.8 24.5 ent price 6.0% 68.5 75.1 81.8 88.4 95.0 101.6	7.0% 14.5 16.2 17.9 19.6 21.3 23.0 24.6 7.0% 68.9 75.5 82.2 88.8 95.5 102.1
Economic spread (ROIC - WACC) C in perpetuity	-1% 0% 1% 2% 3% 4% 5% N	240 4.3 4.7 5.2 5.6 6.0 6.5 6.9 See 240 28.4 29.8 31.1 32.5 33.9	260 9.4 10.0 10.7 11.3 11.9 12.6 13.2 ervice lif 260 52.3 54.5 56.7 58.9 61.1	ths hrs 280 17.4 18.4 19.3 20.3 21.2 22.2 23.1 26 of pow ths hrs 280 81.6 84.8 88.0 91.2 94.4	300 25.5 26.8 28.0 29.3 30.5 31.8 33.1 wer unit 300 109.0 113.1 117.3 121.5 125.7	32.5 34.1 35.6 37.1 38.7 40.2 41.7 320 134.1 139.1 144.2 154.2	Current replacement replacement replacement replacement	1,200 1,300 1,400 1,500 1,600 1,700 1,800 1,200 1,300 1,400 1,500 1,600	3.0% 14.2 15.8 17.5 19.1 20.8 22.5 24.1 Infl 3.0% 67.7 74.2 80.8 87.3 93.9	4.0% 14.3 15.9 17.6 19.2 20.9 22.6 24.2 ation in 4.0% 67.9 74.5 81.1 87.6 94.2	5.0% 14.3 16.0 17.7 19.3 21.0 22.7 24.3 equipme 5.0% 68.2 74.8 81.4 88.0 94.6	6.0% 14.4 16.1 17.8 19.5 21.1 22.8 24.5 ent price 6.0% 68.5 75.1 81.8 88.4 95.0	7.0% 14.5 16.2 17.9 19.6 21.3 23.0 24.6 7.0% 68.9 75.5 82.2 88.8 95.5

Note: Bold numbers indicate assumptions used for valuation; gray marks the result of the most realistic set of assumptions Source: NC ECU, company data, Concorde Capital research

7



Appendix

Assumptions for EP model's terminal value

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Terminal value = EP / (WACC - G), or:

IC * (ROIC-WACC) / (WACC - G)
```

Where:

EP – economic profit in 2021

IC – invested capital as of the beginning of 2021

G – sustainable growth rate of EBIT

WACC – weighted average cost of capital in perpetuity

ROIC – return on invested capital in perpetuity

Assumptions for invested capital in 2021:

- All GenCos will have the same level of depreciated capacities as in 2008. This implicitly assumes that all the companies will modernize/build their capacities in proportion to the wearing out or decommissioning of their existing assets during 2009-2020. We see this assumption as conservative, taking into account that power demand in Ukraine is growing, and there is a need to increase installed capacity
- Gas fired power units as well as DOEN's risky power units are fully accounted for in calculating IC in 2021, in contrast to IC in 2009 (refer to our adjustments listed on page 6). In other words, we assume gasfired capacities and Slaviansk TPP will either be modernized or replaced over 2009-2020; and we assume there is no risk for using CFB technology in the long-term
- Generation equipment prices will inflate by 5% p.a. during 2009-2020

Other assumptions:

- WACC in perpetuity is 12%
- Average WACC for 2009-2020 is 16%
- G is 3%
- ROIC in perpetuity is 13%, which yields an economic spread of 1% a conservative estimate compared to the current spread for British generation companies is above 3%

Final formula for estimating GenCos' EV

```
EV_{(USD\,mln)} = Coal\, capacity_{(GW)} * (1 - hours\, worked / 280,000) * 1,500_{(USD/kW)} + \\ + \{\,IC\, (2021)_{(USD\,mln)} * (13\% - 12\%) / (12\% - 3\%) \,\} / (1 + 16\%)^{12} Where IC\, (2021)_{(USD\,mln)} =  Total capacity_{(GW)} * (1 - hours\, worked / 280,000) * (1,500_{(USD/kW)} * (1 + 5\%)^{12})
```



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	47 11 6

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Total	7	100%

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