

**CASE FOR \$4.00 GAS - Av. 2024-2030**  
**AR / EQT / SWN / CHK**

(Compares to \$2.80 Av. 2019-2021, \$6.00 2022 and \$3.00 in 2023)

(1) **US Gas Supply -- 2022:**

	<u>BCF/d</u>
Marcellus / Utica	36
Permian	22
Haynesville	16
Other	<u>21</u>
Total 2021	95

(2) **Gas Supply Increased 7 BCF/d from 2020 to 2023:**

	<u>BCF/d</u>
Permian	+4.0
Haynesville	+2.0
Marcellus / Utica	+1.0

(3) **Production / Demand 2019-E2024:**

<i>(BCF/d)</i>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>E2023</u>	<u>E2024</u>
Production	88.5	89.9	91.3	95.5	97.5	98.5
Cdn imports	4.3	4.3	5.0	5.5	5.5	6.0
LNG send out	<u>0.2</u>	<u>0.2</u>	<u>0.2</u>	<u>0.2</u>	<u>0.2</u>	<u>0.2</u>
Supply	93.0	94.4	96.5	101.2	103.2	104.7
Power	30.6	31.9	31.1	33.0	33.0	33.0
Industrial	22.8	22.3	22.4	22.5	22.5	22.5
Res / Comm	25.4	24.2	24.3	24.7	24.0	25.0
Exports – Mexico	5.1	5.4	6.0	6.0	6.0	6.5
LNG Feed Gas	5.7	7.2	10.7	11.8	13.0	14.9
Pipe loss	<u>2.3</u>	<u>2.2</u>	<u>2.2</u>	<u>2.2</u>	<u>2.3</u>	<u>2.3</u>
Demand	91.9	93.2	96.7	100.2	100.8	104.2
Storage change	1.1	1.2	(0.2)	1.0	2.4	0.5
Av. Price – HH	2.70	2.20	3.70	6.00	E3.00	E4.00

(4) **Futures – HH:**

		<u>Prompt</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>
<b>1/21/22</b>	Gas HH	3.99	3.87	3.46	3.19	
	Oil WTI	85	81	73	68	
<b>5/23/22</b>	Gas HH	8.74	8.88	5.81	4.48	
	Oil WTI	110	103	88	80	
<b>6/24/22</b>	Gas HH	6.23	6.31	5.10	4.47	
	Oil WTI	108	101	88	79	
<b>10/14/22</b>	Gas HH	6.45	6.68	5.61	4.76	
	Oil WTI	86	84	77	71	
<b>1/16/23</b>	Gas HH	3.71	---	3.69	3.96	
	Oil WTI	74	---	74	71	
<b>2/24/23</b>	Gas HH	2.45	---	3.07	3.62	3.82
	Oil WTI	76	---	76	72	68

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(5) **Supply Forecast (BCF/d):**

	<u>2021</u>	<u>2022</u>	<u>E2023</u>	<u>E2024</u>
Marcellus	35.0	36.0	36.0	36.5
Permian	20.0	22.0	24.0	26.0
Haynesville	14.0	16.0	17.5	17.5
Other	<u>22.3</u>	<u>21.0</u>	<u>20.0</u>	<u>18.5</u>
Total	91.3	95.0	97.5	98.5

(6) **Marcellus 2022 Cash Flow:**

Per MCF	4.00(*)	
Differential	(0.70)	13.1 TCF at \$2.00 cash flow
LOE / Prod taxes	(1.20)	is \$26 billion of cash flow
G&A	<u>(0.10)</u>	from Marcellus
Cash flow	2.00	

(\*) Includes \$3.00 hedges

(7) **Marcellus Cap Ex:**

	<u>(\$Billions)</u>	
Cash flow	26.0	
Cap Ex		
Replace 13.1 TCF	(10.5)	(at 0.80)
Add 3.0 TCF to grow 5%	(2.4)	(at 0.80)
Income tax – 15% of cash flow	<u>(4.0)</u>	
FCF	9.1	

(8) Permian gas production results from oil production providing up to 70% of cash flow.

(9) Haynesville gas production has \$1.00 cost to add PDP – offset is \$0.20 differential.

(10) Other gas has high cost to add PDP (est. \$1.30) and will decline in 2023 and 2024.

(11) **Comment on Gas Demand:**

LNG	– 2022 at 13 BCF capacity at year end.	
	– Venture	All to be completed during 2023, 2024 and 2025– 6 BCF of capacity to 19 BCF in 2025.
	Sabine Pass	
	Corpus	
	Golden Pass	
	Freeport	
	Tullurian	
	Sempra	

Power – Wind & Solar will hold gas flat.

Res Com / Industrial are each flat.

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**(12) AR / EQT / SWN 2021 Cash Flow:**

(\$Billions)	AR	EQT	SWN	Indigo	Geo Southern	Pro Forma
Shares (MM)	314	378	677			1,150
Price 12/21	18	22	5½			5½
Equity	5.7	8.3	3.7	2.0	0.5	6.3
Debt	<u>3.0</u>	<u>5.4</u>	<u>3.2</u>	<u>0.7</u>	<u>1.4</u>	<u>5.4</u>
Capital	8.7	13.7	6.9	2.7	1.9	11.7
EBIT-D	1.7	2.5	1.4	0.6	0.5	2.5
Cap Ex	<u>(0.7)</u>	<u>(1.1)</u>	<u>(0.9)</u>	<u>(0.4)</u>	<u>(0.3)</u>	<u>(1.6)</u>
FCF	1.0	1.4	0.5	0.2	0.2	0.9
BCFE/d	3.3	5.1	3.0	1.0	0.7	4.7
TCFE/yr	1.20	1.86	1.10	0.37	0.26	1.72
Per MCFE						
Revenue	4.80	3.67	3.80	4.00	---	3.90
Hedging	(0.48)	(1.12)	(1.30)	(1.70)	---	(1.33)
Operating	(2.30)	(1.20)	(1.06)	(0.40)	---	(0.98)
G&A	<u>(0.12)</u>	<u>(0.11)</u>	<u>(0.14)</u>	<u>(0.30)</u>	<u>---</u>	<u>(0.14)</u>
EBIT-D	1.40	1.24	1.30	1.60	0.90	1.45
FCF yield – 2021	12%	10%	7%	7%	10%	8%

**Memo:**

-AR owns \$1.6 billion of AM.

**(13) CHK / VINE / CHIEF 2021 Pro Forma:**

(\$billions)	CHK	VINE	CHIEF	Total
Shs (MM)	98	19	10	127
Sh price 12/21	60	60	70	70
Debt	0.6	1.1	2.0	3.7
Equity	<u>5.9</u>	<u>1.1</u>	<u>0.7</u>	<u>9.0</u>
EV	6.5	2.2	2.7	12.7
BCFE/d	2.5	1.0	0.8	4.3
EBIT-D	1.8	0.8	0.7	3.3
Cap Ex	<u>(0.7)</u>	<u>(0.5)</u>	<u>(0.2)</u>	<u>(1.4)</u>
FCF	1.1	0.3	0.5	1.9
FCF yield – 2021	17%	15%	17%	15%

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(14) **2022 Free Cash Flow at 4.00 gas net of hedges:**

<i>(\$billion)</i>	<u>AR</u>	<u>EQT</u>	<u>SWN</u>	<u>CHK</u>
BCF/d	3.2	5.5	4.7	4.1
TCF/yr	1.17	2.00	1.72	1.50
EBIT-D	2.4	3.5	3.2	3.5
Cap Ex	<u>(0.9)</u>	<u>(1.6)</u>	<u>(2.1)</u>	<u>(1.7)</u>
Free cash flow	1.5	1.9	1.1	1.8
Per MCF				
EBIT-D	2.05	1.75	1.85	2.30
Free cash flow	1.30	0.95	0.65	1.20
Free cash yield				
Debt + equity	15%	11%	10%	14%
<i>Debt &amp; equity:</i>				
<i>(\$Billion)</i>				
Stock price	28	35	5.60	85
Equity	8.5	12.9	6.2	10.3
Debt	<u>1.5</u>	<u>4.7</u>	<u>4.9</u>	<u>2.7</u>
Total	10.0	17.6	11.1	13.0
Shs (MM)	303	368	1,110	121

- (15) Stock prices may trade higher during 2023 if AR / EQT / SWN / CHK can show production growth with Cap Ex forecasts continuing in range of 50% of EBITD and gas prices recover.

	<u>2021</u>	<u>2022</u>	<u>5/20/22</u>	<u>6/24/22</u>	<u>11/4/22</u>	<u>1/6/23</u>	<u>2/24/23</u>
	<u>YE</u>	<u>High</u>					
AR	17½	49	35	32	37	28	28
EQT	22	52	41	35	41	33	35
CHK	64	107	91	84	100	88	85
SWN	5½	9.87	7.10	7.01	6.80	5.60	5.60

- (16) SWN has not started a dividend like EQT and CHK but did announce a buyback plan like AR.

The preceding outlines the terms of a proposed investment by Yorktown Energy Partners XII, L.P. Until definitive documentation is executed by all parties, there shall not exist any binding obligation on the part of any party to consummate the transaction described herein. This memorandum does not constitute a contractual commitment of Yorktown Energy Partners XII, L.P. but merely represents proposed terms for the proposed transaction. Any such transaction would be subject to due diligence and other customary conditions.