



# Oil & Gas Industry Day 2020

February 25, 2020



# Taxpayer Access Point



# **THE MOST REQUESTED SERVICE FOR TAP IS FINALLY HERE**

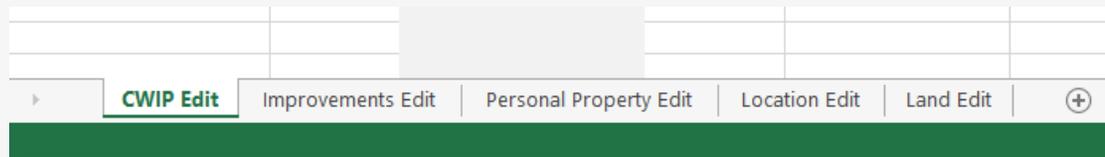


# TAP Export to Excel Spreadsheet

# Export to Spreadsheet

<b>Schedules to Edit Existing Items</b>	<b>Schedules to Add New Items</b>	<b>Helpful Links</b>
<a href="#">PT-30 Schedule A1 - C.W.I.P. Edit</a>	<a href="#">PT-30 Schedule A1 - C.W.I.P. Additions</a>	<a href="#">PT-30 NatRes Annual Return Instructions</a>
<a href="#">PT-30 Schedule A2 - Improvements Edit</a>	<a href="#">PT-30 Schedule A2 - Improvements Additions</a>	<a href="#">PT-30 NatRes Annual Return</a>
<a href="#">PT-30 Schedule A3 - Personal Property Edit</a>	<a href="#">PT-30 Schedule A3 - Personal Property Additions</a>	<a href="#">PT-31 Forms - Required Income Questionnaire</a>
<a href="#">PT-30 Schedule A4 - Location Edit</a>	<a href="#">PT-30 Schedule A4 - Location Additions</a>	<a href="#">Tax Area Link</a>
<a href="#">PT-30 Schedule B - Land Edit</a>	<a href="#">PT-30 Schedule B - Land Additions</a>	<a href="#">UTM Coordinates Link</a>
<a href="#">Summary Page</a>		
<a href="#">Export to Excel Spreadsheet</a>		

Choose a tab at the bottom of the page



# Spreadsheet

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
Location ID	Location Name	API Number	Valid (Y/N)	Explanation of Changes	Item ID	Description	Equipment Type	Make	Model	Model Year	Class	Owner Equipment ID	Serial Number	Registered in Utah (Y/N)	Acquisition Year	Acquisition Cost	Trib
202663	TRANSITION TAP		Y		286105600	400 BBL TANKW/STAIRS AND CONTAINMENT					0.20			N	2015	1000	N
202663	TRANSITION TAP		Y		1359847424	PIG LAUNCHER		8"			0.16			N	2015	411	N
82342	UTE TRIBAL 5-32-14-20	43-047-39741	Y		196517888	METER RUN/COMMUNICATIONS...W/SOLAR CELL...DRR01					0.20			N	2015	880	N
82342	UTE TRIBAL 5-32-14-20	43-047-39741	Y		477536256	CAPILLARY TUBING...DR02					0.20			N	2015	2519	N
82342	UTE TRIBAL 5-32-14-20	43-047-39741	Y		834052096	4" SALES LINE					0.20			N	2015	154	N

# Spreadsheet

- ▶ If something has been deleted
  - ▶ Valid Column = N
  - ▶ Enter Explanation of Changes
- ▶ If something needs to be edited
  - ▶ Valid Colum = Y
  - ▶ Enter Explanation of Changes
  - ▶ Make your changes on the spreadsheet
- ▶ DO NOT CHANGE OR MOVE COLUMNS

# Spreadsheet Import

**Authentication**

Signature Date

Contact Name  *Required*

Contact Title  *Required*

Contact Phone  *Required*

Contact Email  *Required*

I, being duly sworn, depose and say that I am an entitled officer of the company, and that all schedules and reports contained in and related to the Annual Return and submitted to the Property Tax Division of the Utah State Tax Commission, including the submitted Income forms and Return of Assessment, are complete and contain true and correct listings of the costs of property owned and/or leased by the said company subject to Assessment by the State Tax Commission, as of the first day of January, of the lien year.

Electronic Signature

**Attachments** [Add](#)

Type	Name	Description	Size
<i>Your online session will timeout after 60 minutes of inactivity. Save your work if you will be away from your computer.</i>			



# Oil and Gas Production/Water Disposal

Discount Rate

# Cap Rate Variables

- ▶ Comparable Companies
- ▶ Capital Structure
- ▶ Debt Rate
- ▶ Equity Rate

# Comparable Companies

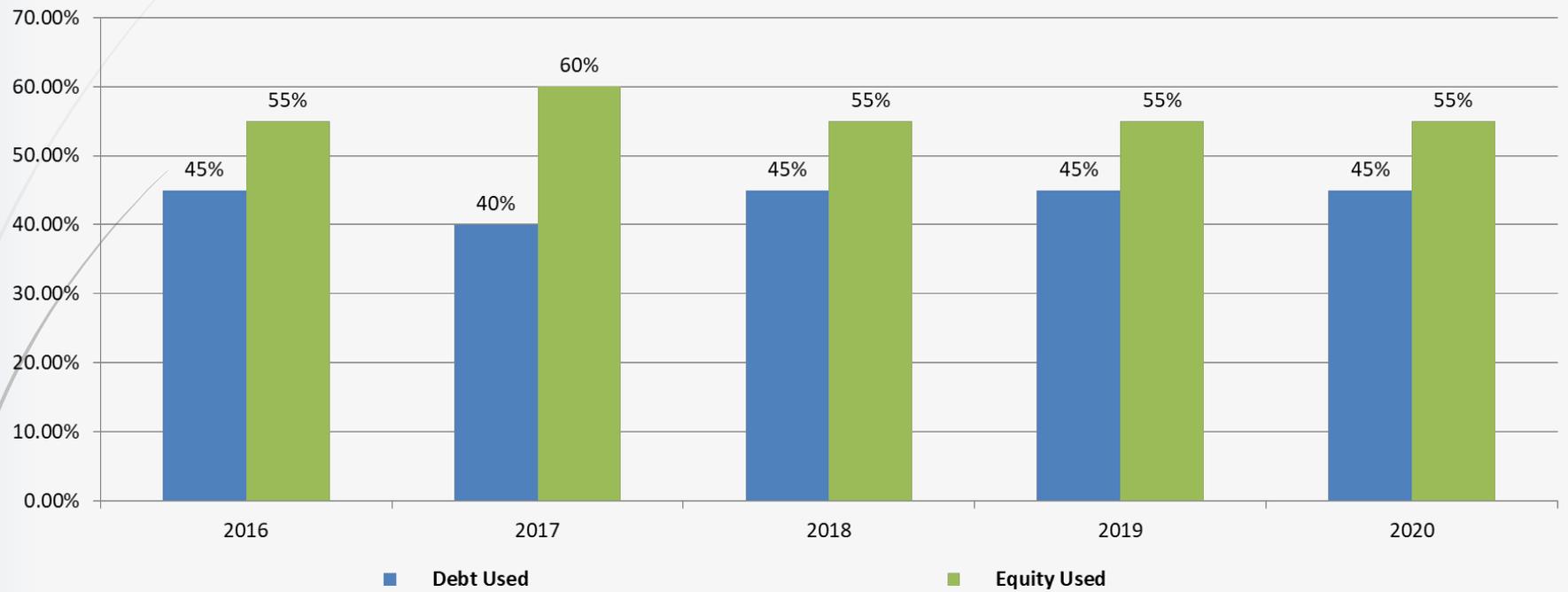
## 2019

- ABRAXAS PETROL
- BLACK STONE MINERALS
- CARRIZO OIL & GAS
- CONTINENTAL RESOURCES
- DENBURY RESOURCES
- ENCANA CORP.
- LEGACY RESERVES
- NEWFIELD EXPLORATION
- PIONEER NATURAL RES.
- QEP RESOURCES
- RESOLUTE ENERGY CORP
- SM ENERGY CO
- SOUTHWESTERN ENERGY
- WHITING PETROLEUM
- WPX ENERGY

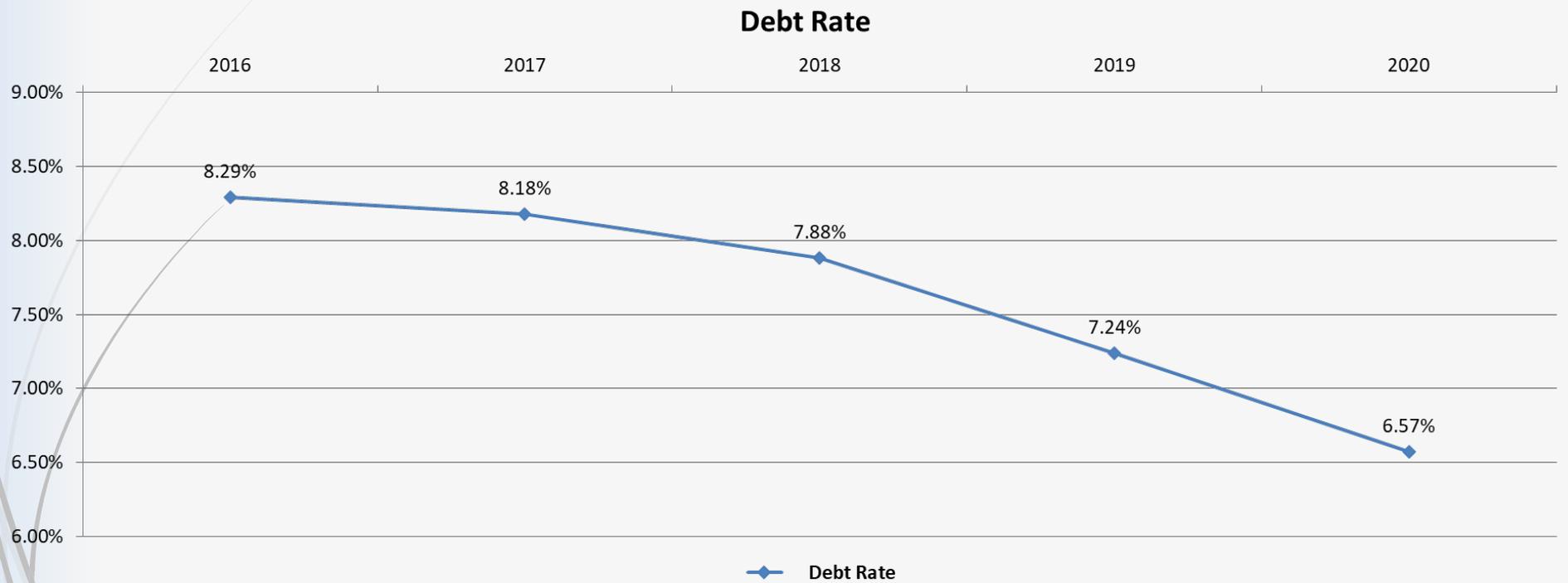
## 2020

- ABRAXAS PETROL
- BLACK STONE MINERALS
- CALLON PETROLEUM
- CONTINENTAL RESOURCES
- DENBURY RESOURCES
- DEVON ENERGY
- HIGHPOINT RESOURCES CORP
- PIONEER NATURAL RES.
- QEP RESOURCES
- RING ENERGY
- ROYALE ENERGY INC
- SM ENERGY CO
- SOUTHWESTERN ENERGY
- WHITING PETROLEUM
- WPX ENERGY

# 5 Year Capital Structure History

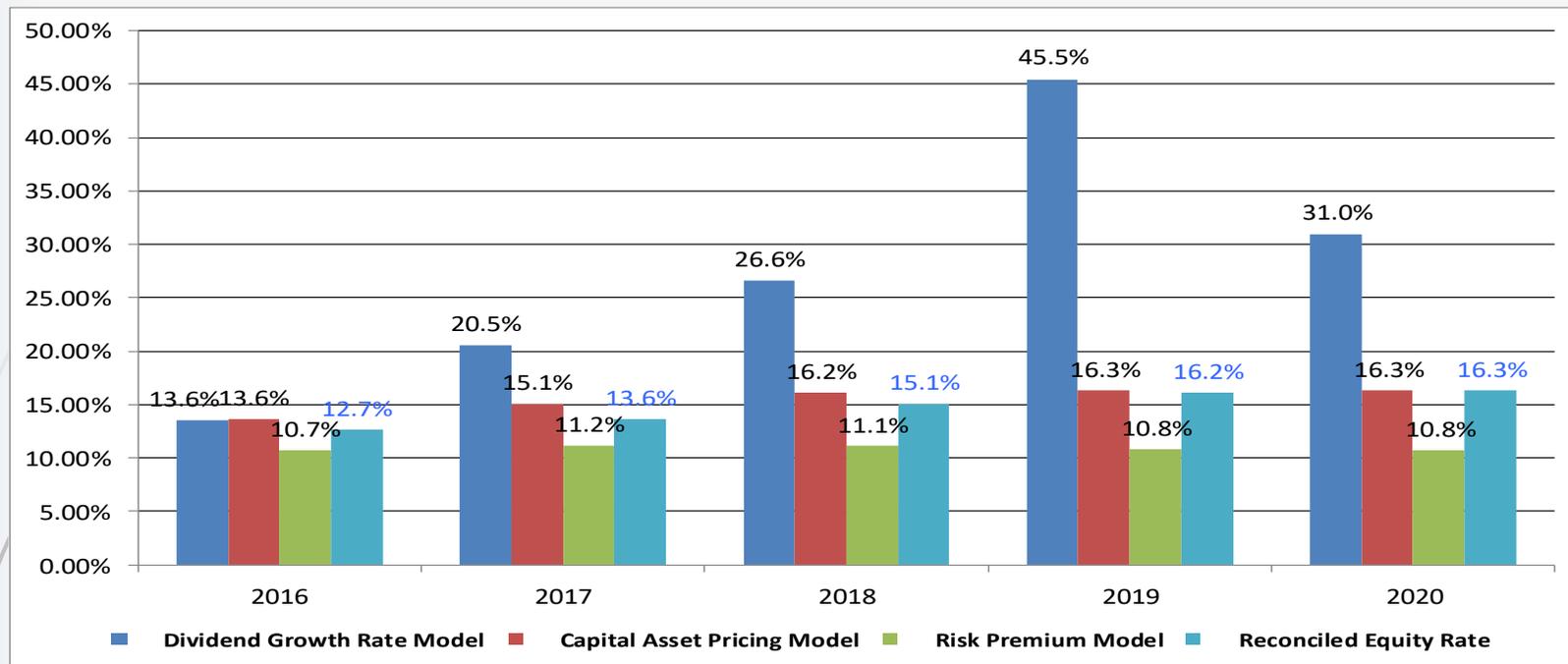


# 5 Year Debt Rate History



\*Average of comparable company debt ratings

# 5 Year Equity Rate History



\*Reconciled equity rate weighted for calculation method

$$\text{CAPM} = R_f + \beta(R_m - R_f)$$

## Production/WD Discount Rate

### Weighted Average Cost of Capital Discount Rate Calculation

	Rate	Capital Structure	Weighted Rate
Debt (Ba3)	6.57%	45%	2.96%
Equity	16.34%	55%	8.99%
<b>WACC</b>			<b>11.95%</b>

\*Updated Market Risk Premium will slightly affect the CAPM and therefore, WACC

$$\text{CAPM} = R_f + \beta(R_m - R_f)$$



# Oil and Gas Gathering

Discount Rate

## Comparable Companies

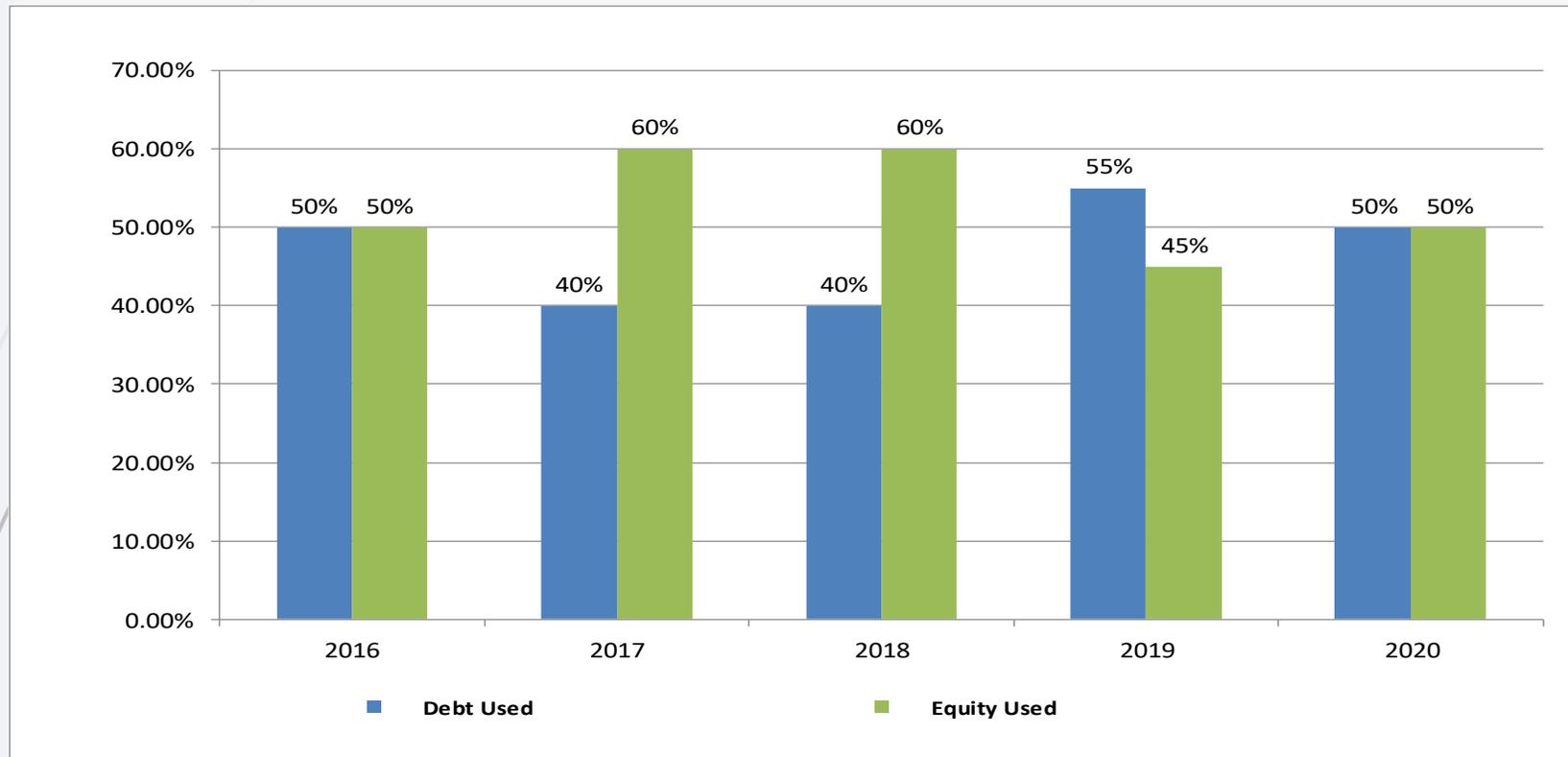
2019

- CRESTWOOD EQUITY PARTNERS
- **DOMINION ENERGY**
- ENERGY TRANSFER PARTNERS
- PLAINS ALL AMERICAN PIPELINE
- SUMMIT MIDSTREAM PARTNERS
- TALLGRASS ENERGY PARTNERS
- **WESTERN GAS PARTNERS**
- WILLIAMS COS

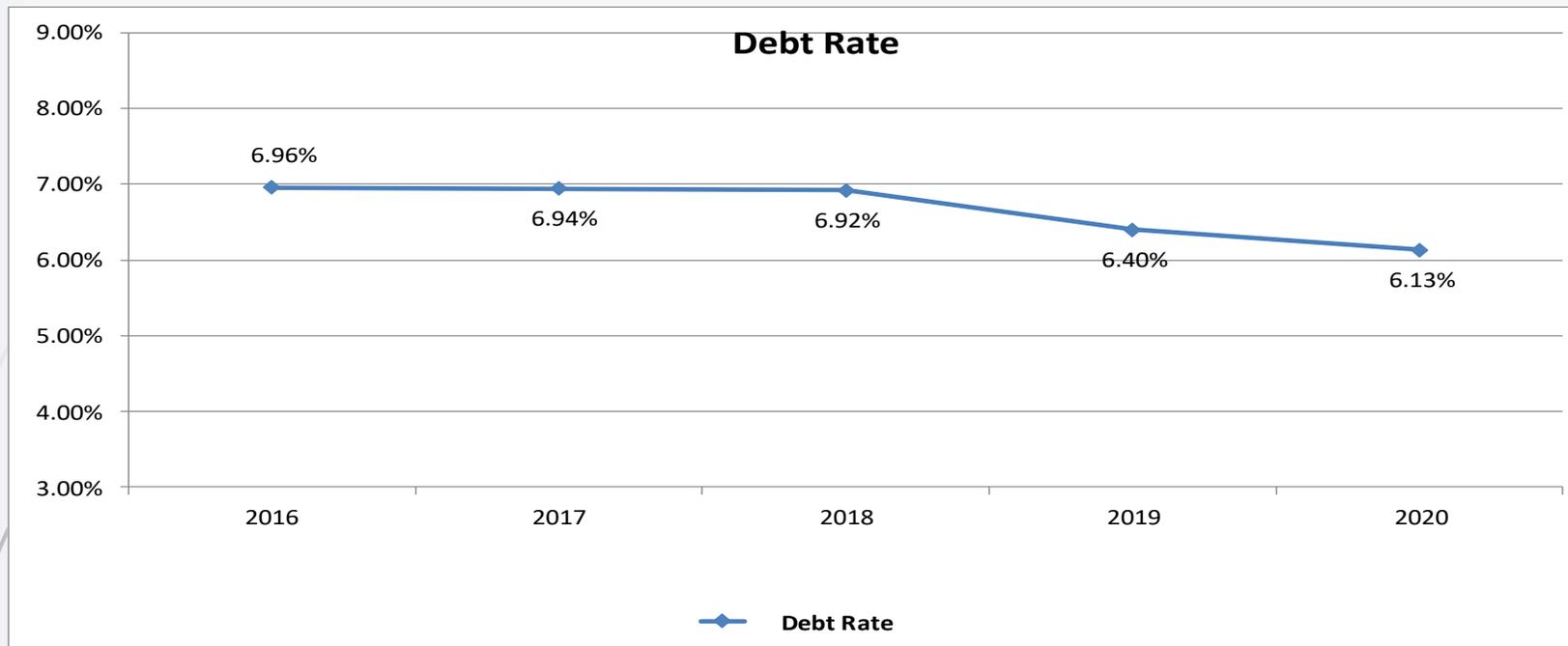
2020

- CRESTWOOD EQUITY PARTNERS LP
- ENERGY TRANSFER LP
- **HOLLY ENERGY PTRS.**
- PLAINS ALL AMER. PIPE
- SUMMIT MIDSTREAM PARTNERS LP
- TALLGRASS ENERGY LP
- **WESTERN MIDSTREAM PART.**
- WILLIAMS COS.

# 5 Year Capital Structure History

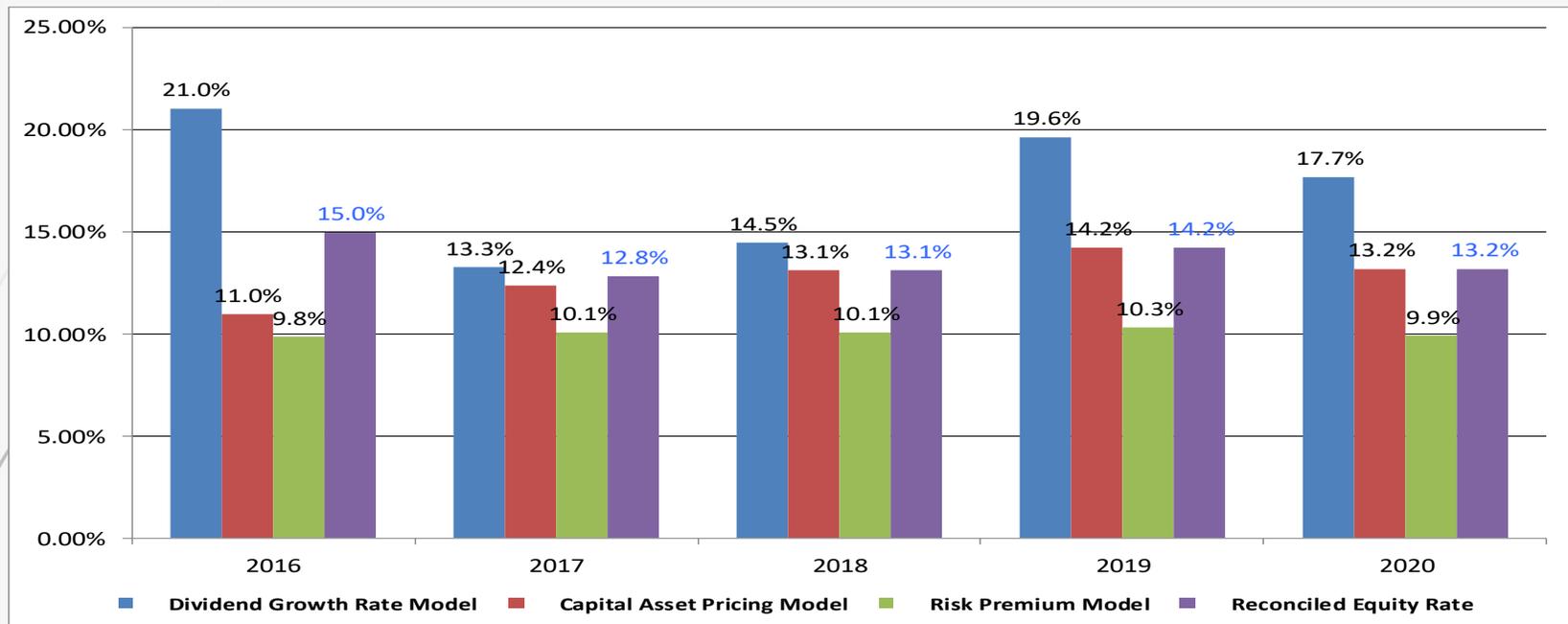


# 5 Year Debt Rate History



\*Average of comparable company debt ratings

## 5 Year Equity Rate History



\*Reconciled equity rate weighted for calculation method

$$\text{CAPM} = R_f + \beta(R_m - R_f)$$

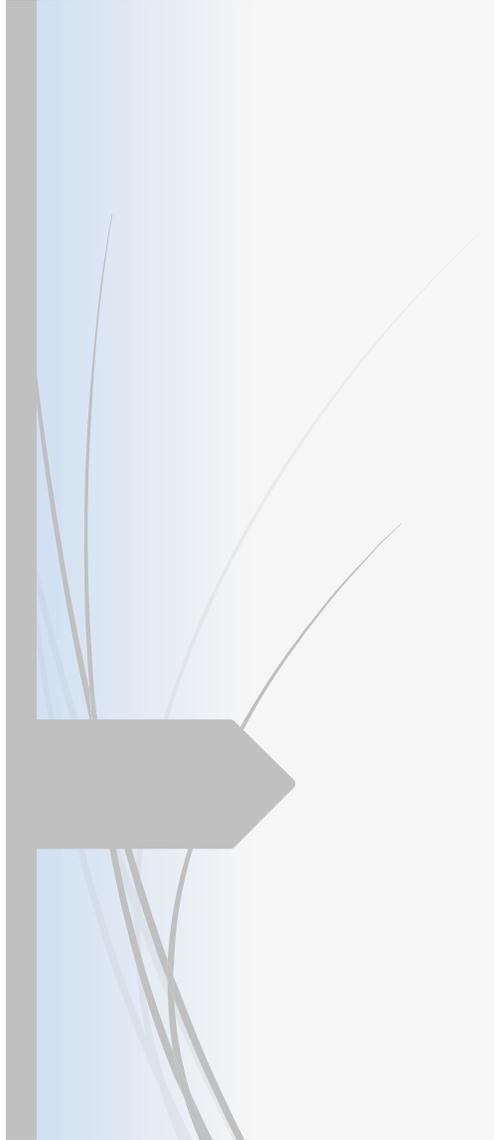
# Oil and Gas Gathering Discount Rate

## Weighted Average Cost of Capital Discount Rate Calculation

	Rate	Capital Structure	Weighted Rate
Debt (Ba2)	6.13%	50%	3.07%
Equity	13.19%	50%	6.60%
<b>WACC</b>			<b>9.67%</b>

\*Updated Market Risk Premium will slightly affect the CAPM and therefore, WACC

$$\text{CAPM} = R_f + \beta(R_m - R_f)$$



# Natural Gas Price Forecast 2020

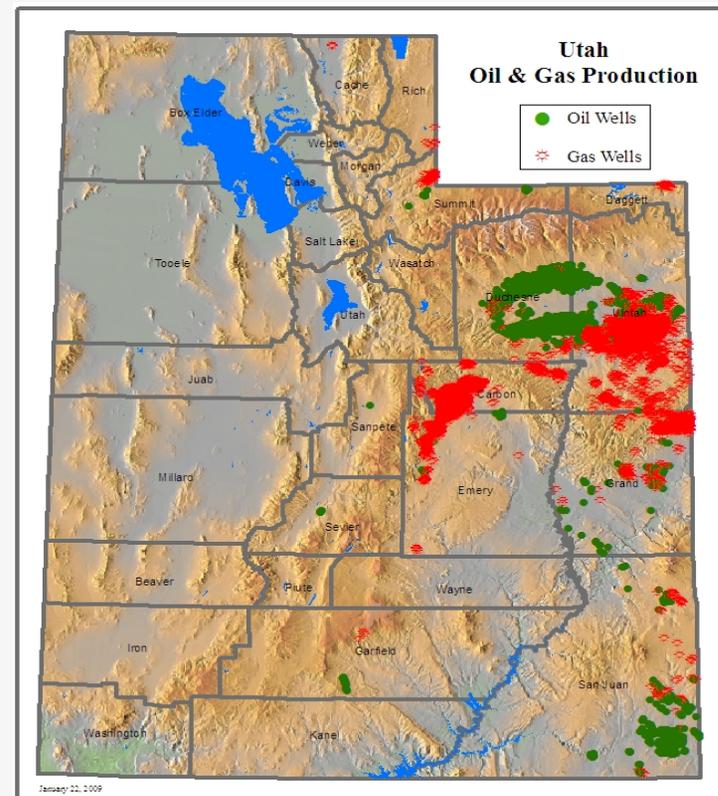
# Natural Gas Price Forecast

- Gas Product Price
  - If sold under contract, the price shall be the stated price as of January 1, adjusted for escalation and de-escalation
  - If sold on the spot price market or to a direct end-user, the price shall be the average price received for the 12-month period immediately preceding January 1, adjusted for escalation and de-escalation

Utah Tax Code R884-24P-14 (1)

# Natural Gas Pricing Factors

- Data Analysis:
  - Supply
  - Demand
  - Drilling
  - Production
- Other Variables
  - Weather
  - Economy



Source- DOGM

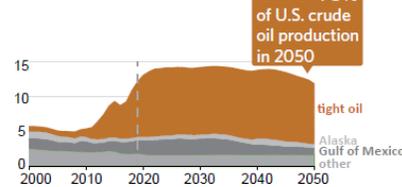


AEO2020 Reference case

## The United States continues to produce historically high levels of...

### crude oil...

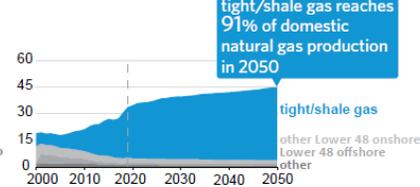
U.S. crude oil production  
million barrels per day



Tight oil development continues to be the main driver of total U.S. crude oil production.

### and natural gas.

Dry natural gas production by type  
trillion cubic feet

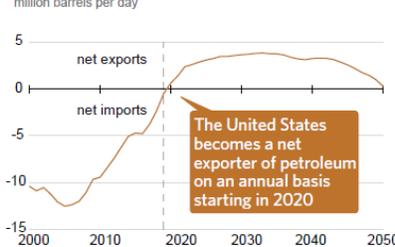


Development of tight and shale resources continues to be the main driver of U.S. dry natural gas production.

## Slower growth in domestic consumption of these fuels leads to increasing exports of...

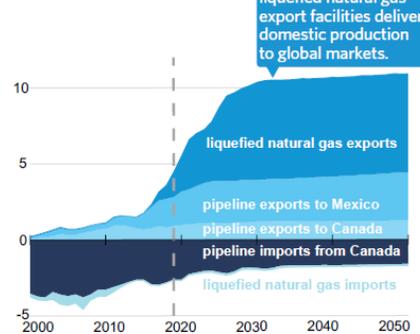
### crude oil, petroleum products...

U.S. petroleum and other liquids net exports  
million barrels per day



### and liquefied natural gas.

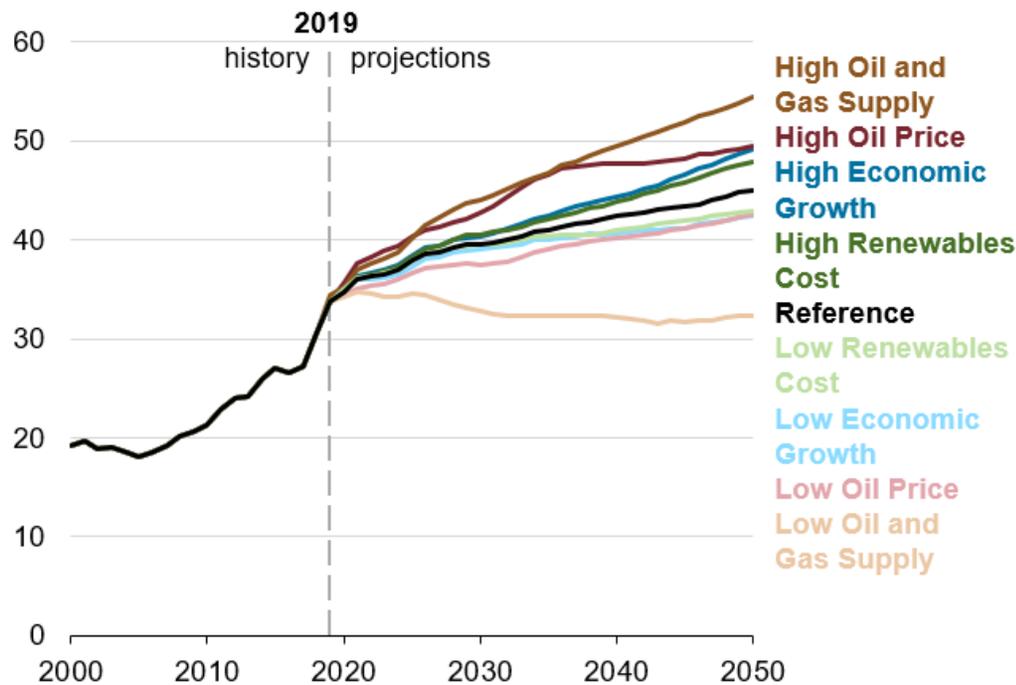
Natural gas trade  
trillion cubic feet



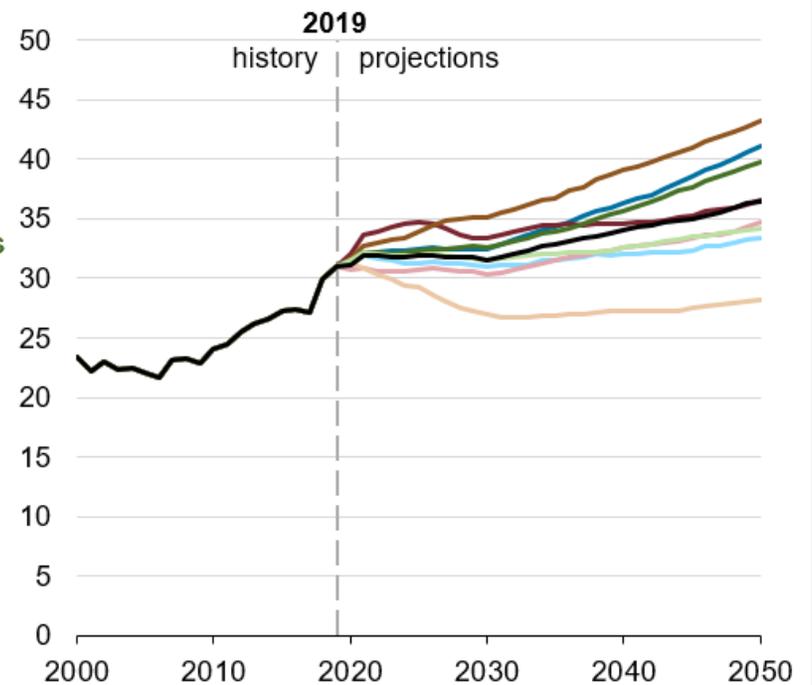
Source: U.S. Energy Information Administration, Annual Energy Outlook 2020 (AEO2020) Reference case

## U.S. dry natural gas production and consumption increase in most AEO2020 cases—

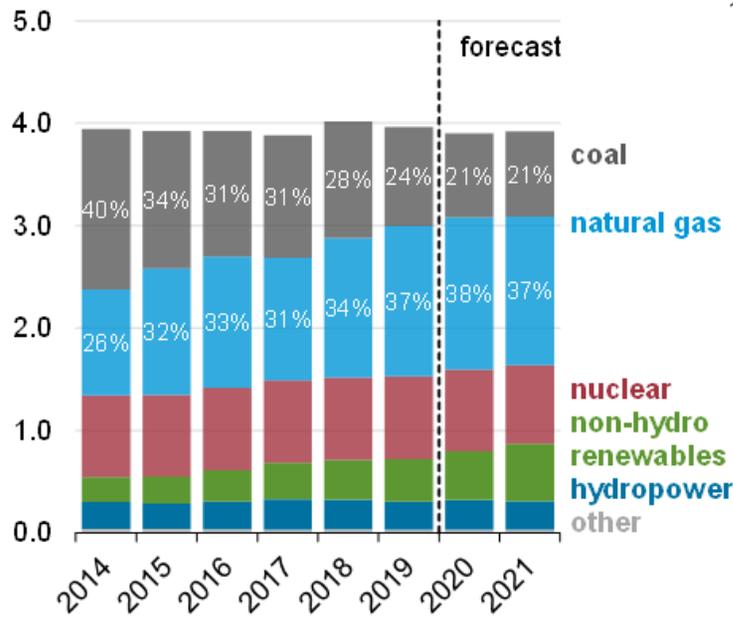
**AEO2020 U.S. dry natural gas production**  
trillion cubic feet



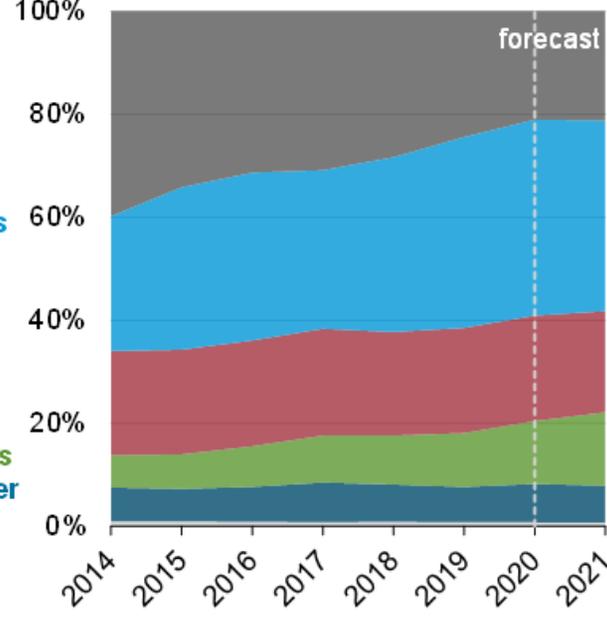
**AEO2020 U.S. natural gas consumption**  
trillion cubic feet



**U.S. electricity generation by fuel, all sectors**  
trillion kilowatthours



percent share



Note: Labels show percentage share of total generation provided by coal and natural gas.

Source: Short-Term Energy Outlook, February 2020



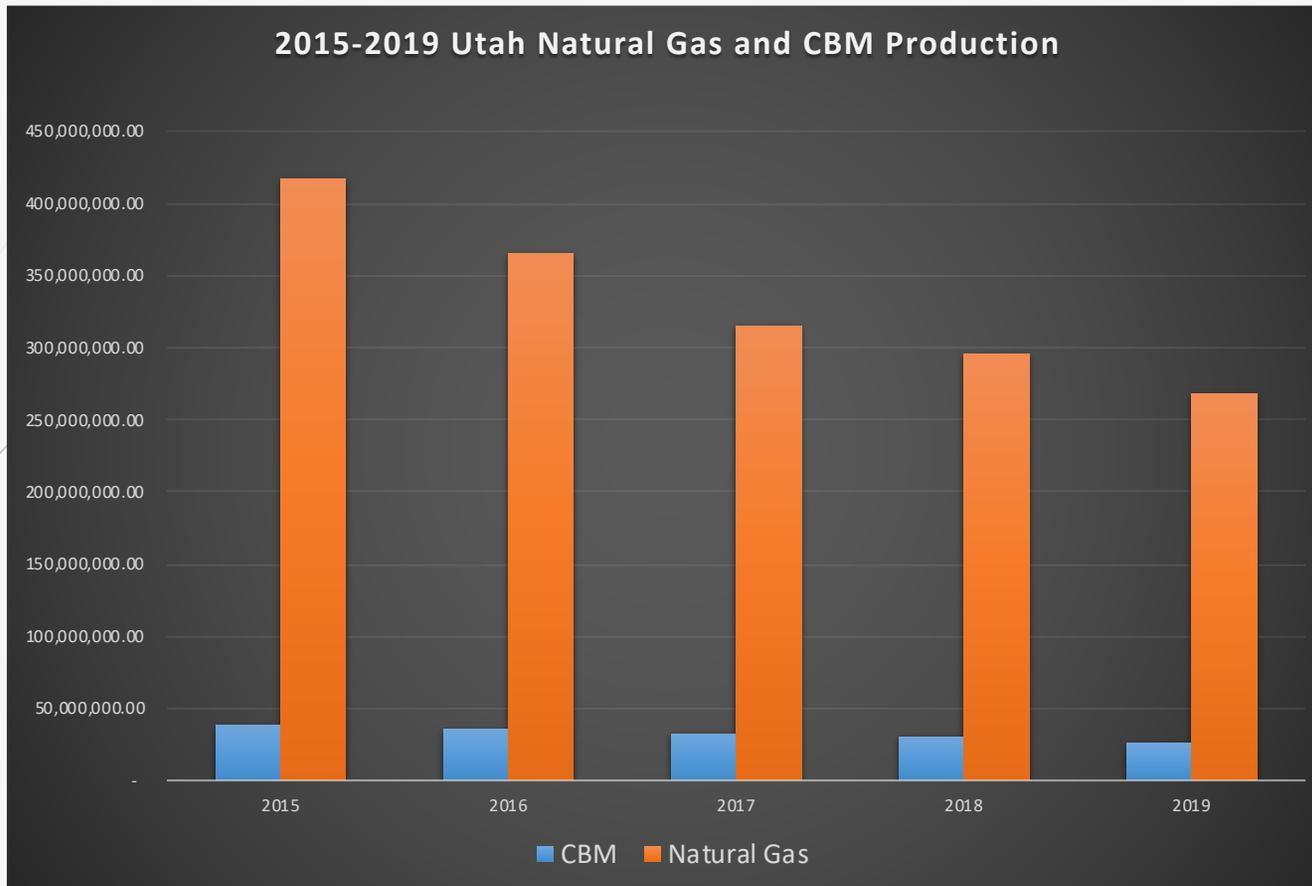
## 2019 Utah- Current Gas Well Count

Utah Gas Wells Plugged by Year			
2016	2017	2018	2019
164	56	85	123

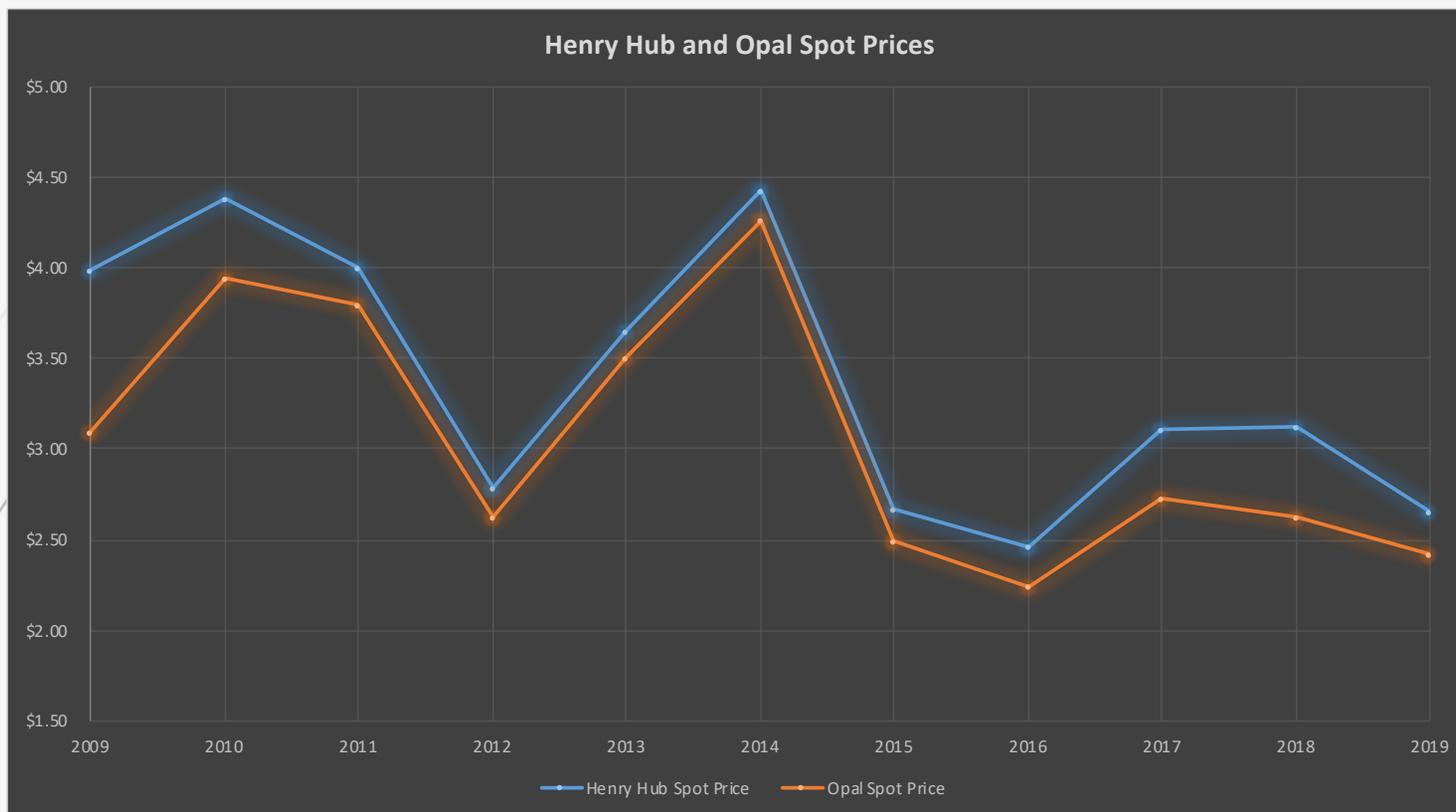
2019 Drilling	
Oil	Gas
88	14

Current Utah Gas Well Count	
Producing Gas Wells	7421
Shut-in Gas Wells	1898
Total	9319

Source- DOGM (Feb 2020)

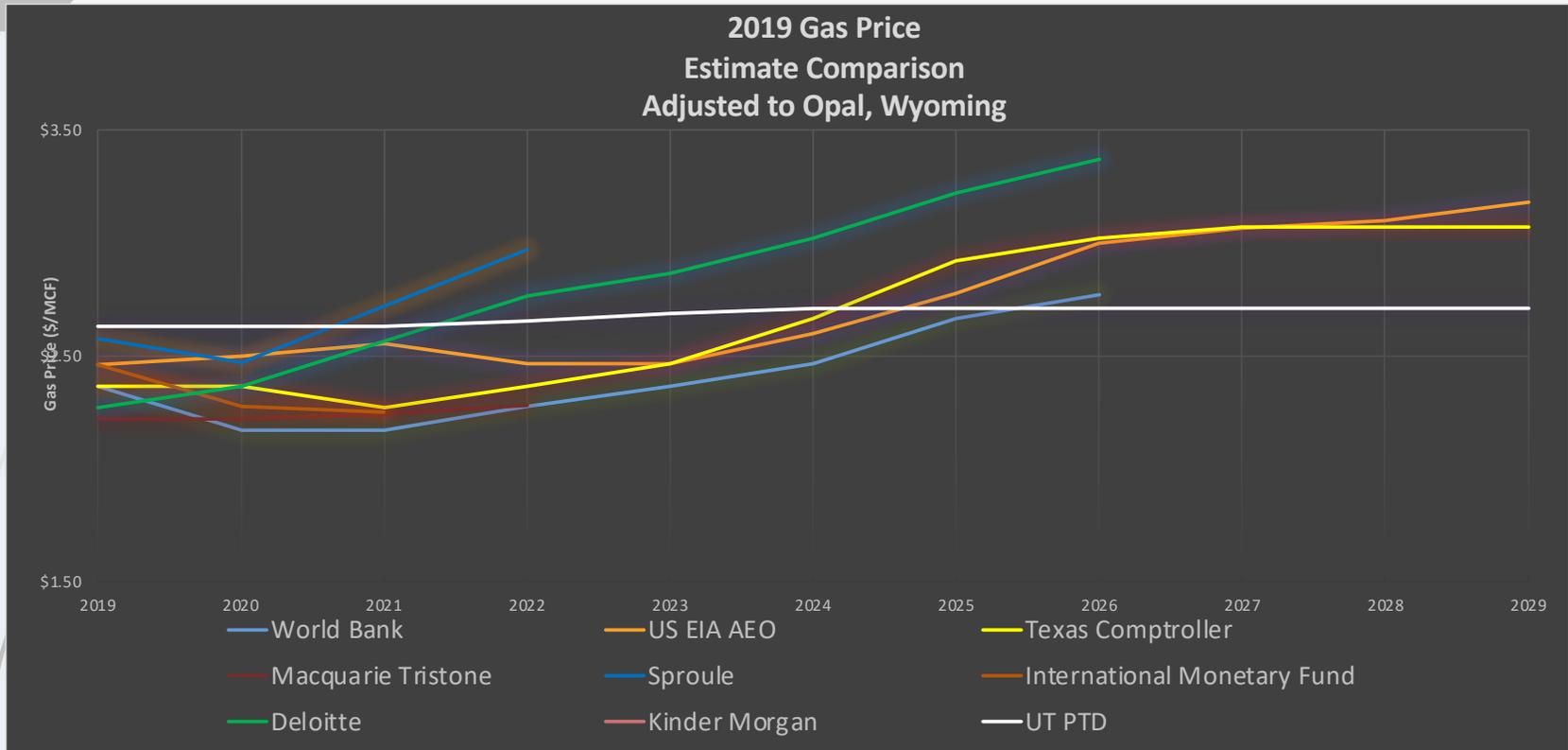


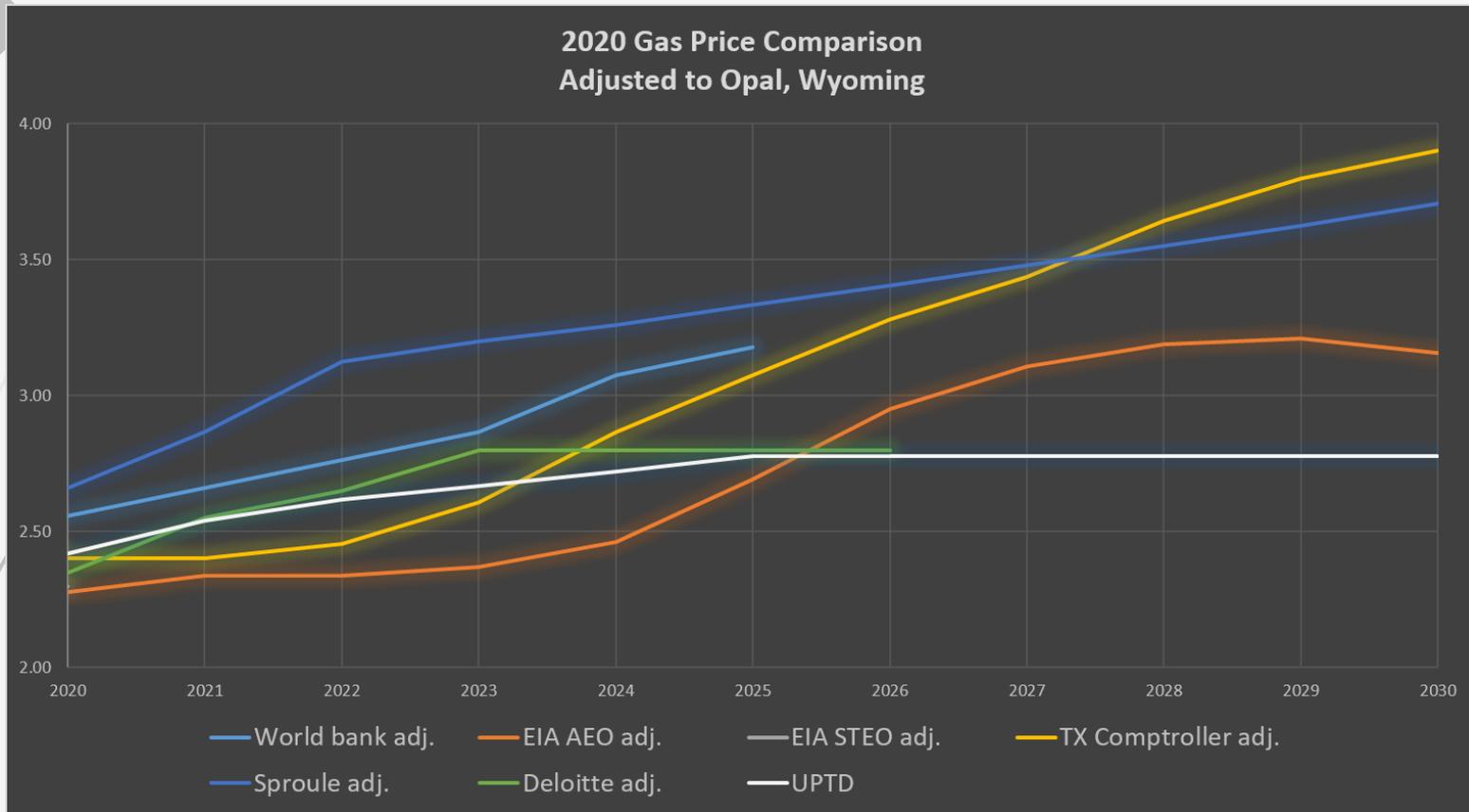
Source- DOGM (In thousands, 2019 is annualized)



# 2019 Henry Hub / Opal Differential

Month	Opal Gas Prices	Henry Hub Gas Prices	Differential
January	4.22	3.19	-1.03
February	2.51	2.81	0.30
March	3.77	3.04	-0.73
April	2.32	2.75	0.43
May	2.07	2.72	0.65
June	1.65	2.48	0.83
July	1.67	2.44	0.77
August	2.01	2.30	0.29
September	1.81	2.67	0.86
October	2.01	2.41	0.40
November	2.45	2.75	0.30
December	2.53	2.32	-0.21
<b>Average</b>	<b>2.42</b>	<b>2.66</b>	<b>0.24</b>





2020 Forecast Increase					
World Bank	Sproule	Deloitte	EIA AEO	TX Comp.	UPTD
4%	8%	9%	3%	0%	3%

# 2020 Gas Price Forecast

Year	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Start Price	2.42										
Forecast		2.49	2.57	2.64	2.72	2.78	2.78	2.78	2.78	2.78	2.78
% Change		3%	3%	3%	3%	2%	0%	0%	0%	0%	0%



# Oil Price Forecast 2020



## Disclaimer

- ▶ Forecasted numbers are opinions of value and are subject to significant economic factors unknown or not reported as of January 1, 2020

## NOT THERE YET

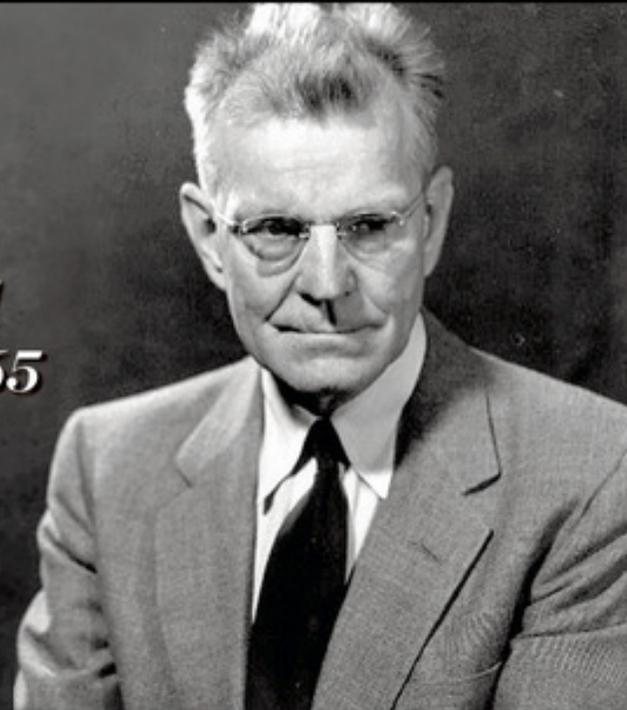
Notable past predictions of peak oil that didn't turn out

### 1956

M. King Hubbert,  
a geologist for Shell Oil, says that

*U.S. oil production will  
likely peak between 1965  
and 1970 and decline  
steadily thereafter.*

> Output will indeed peak in 1970 and  
then trend downward—but it will jump  
by two-thirds from 2009 to mid-2014.



Source: "The Quest" by Daniel Yergin, 2011

Photo: University of Wyoming/American Heritage Center

“A century ago, petroleum – what we call oil – was just an obscure commodity; today it is almost as vital to human existence as water.”

James Buchan

## 2019 Highlights

### Global supply

- OPEC production avg 36.2 million b/d in 2019, a decrease of 415K b/d from 2018
- OPEC exported avg. 24.67 m b/d in 2018

### WTI-Brent

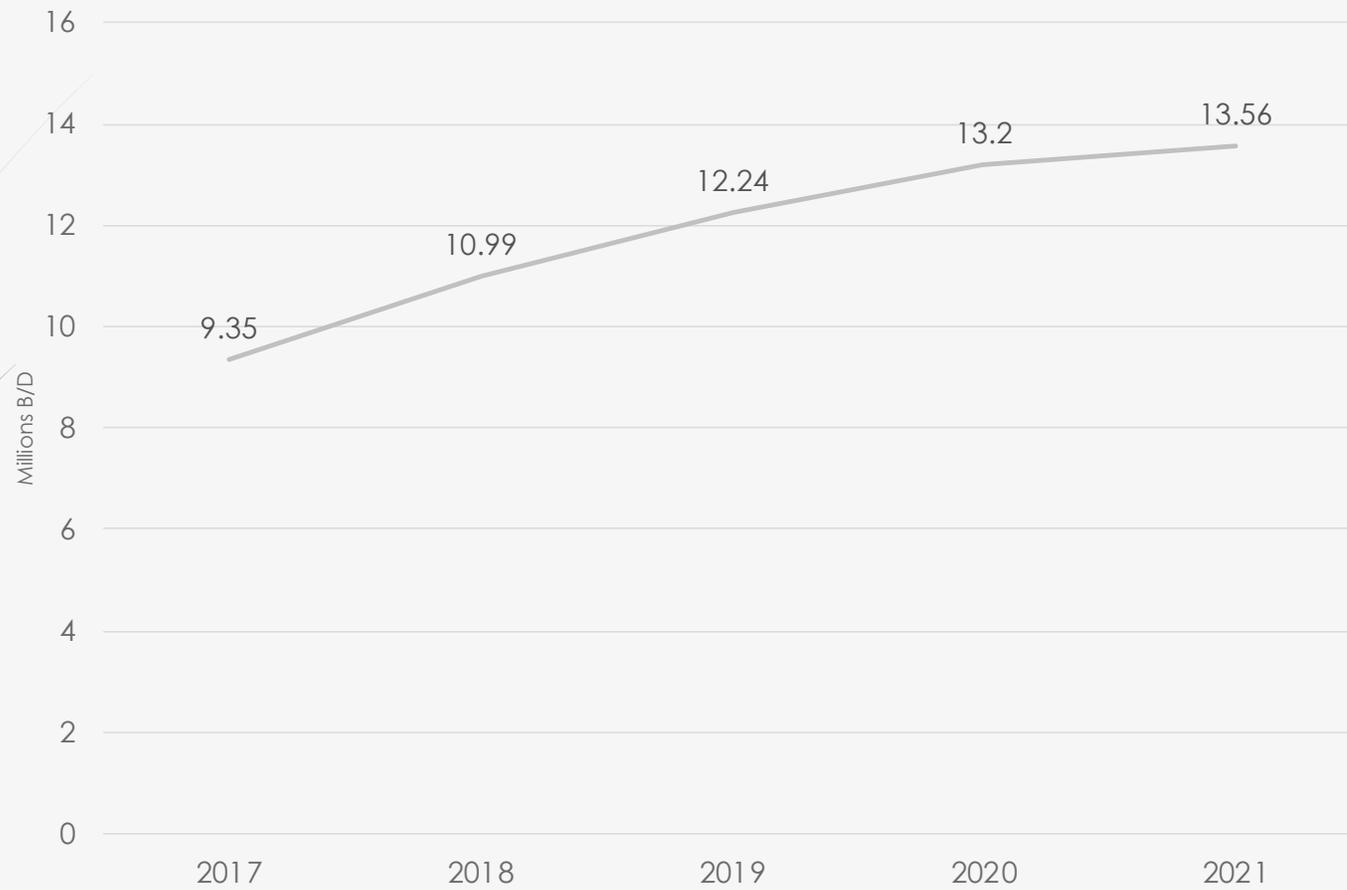
- Brent crude oil spot price averaged \$64/bbl
- WTI nearly averaged \$57/bbl
- WTI-Brent differential averaged \$7.62/bbl

### US oil production

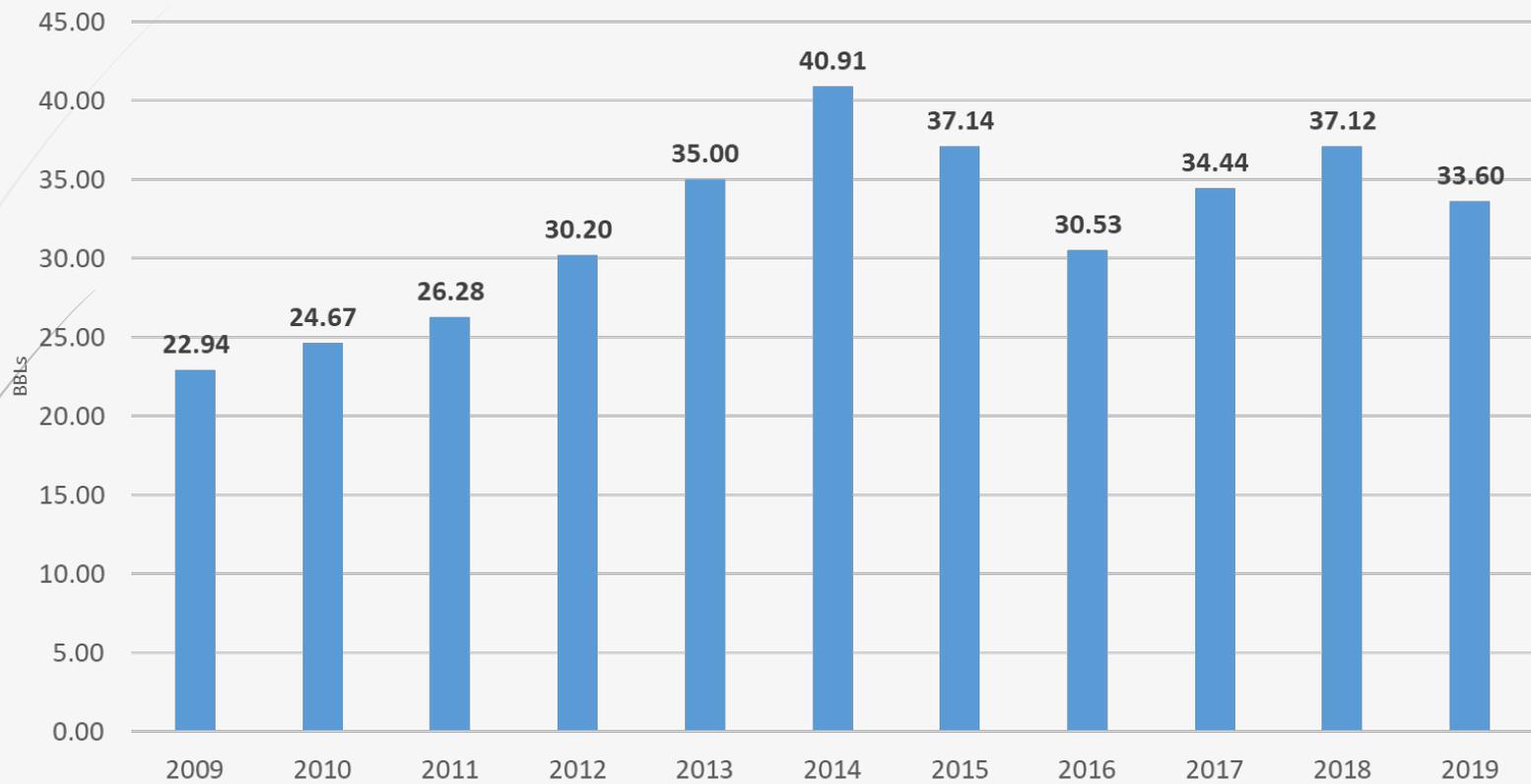
- Increased production, reduced cost
- EIA forecasts a 1 m b/d increase in production for 2020

Global Petroleum and Other Liquids				
	2018	2019	2020	2021
<b>Supply &amp; Consumption</b>	(million barrels per day)			
Non-OPEC Production	63.51	65.45	67.98	68.78
OPEC Production	37.32	35.21	33.99	34.26
OPEC Crude Oil Portion	31.96	29.78	28.93	29.21
<b>Total World Production</b>	<b>100.83</b>	<b>100.66</b>	<b>101.97</b>	<b>103.04</b>
OECD Commercial Inventory (end-of-year)	2,863	2,894	2,933	2,918
Total OPEC surplus crude oil production capacity	1.49	1.98	2.58	2.55
OECD Consumption	47.63	47.40	47.37	47.54
Non-OECD Consumption	52.33	53.31	54.36	55.72
<b>Total World Consumption</b>	<b>99.97</b>	<b>100.71</b>	<b>101.74</b>	<b>103.26</b>

U.S. Crude Oil Production

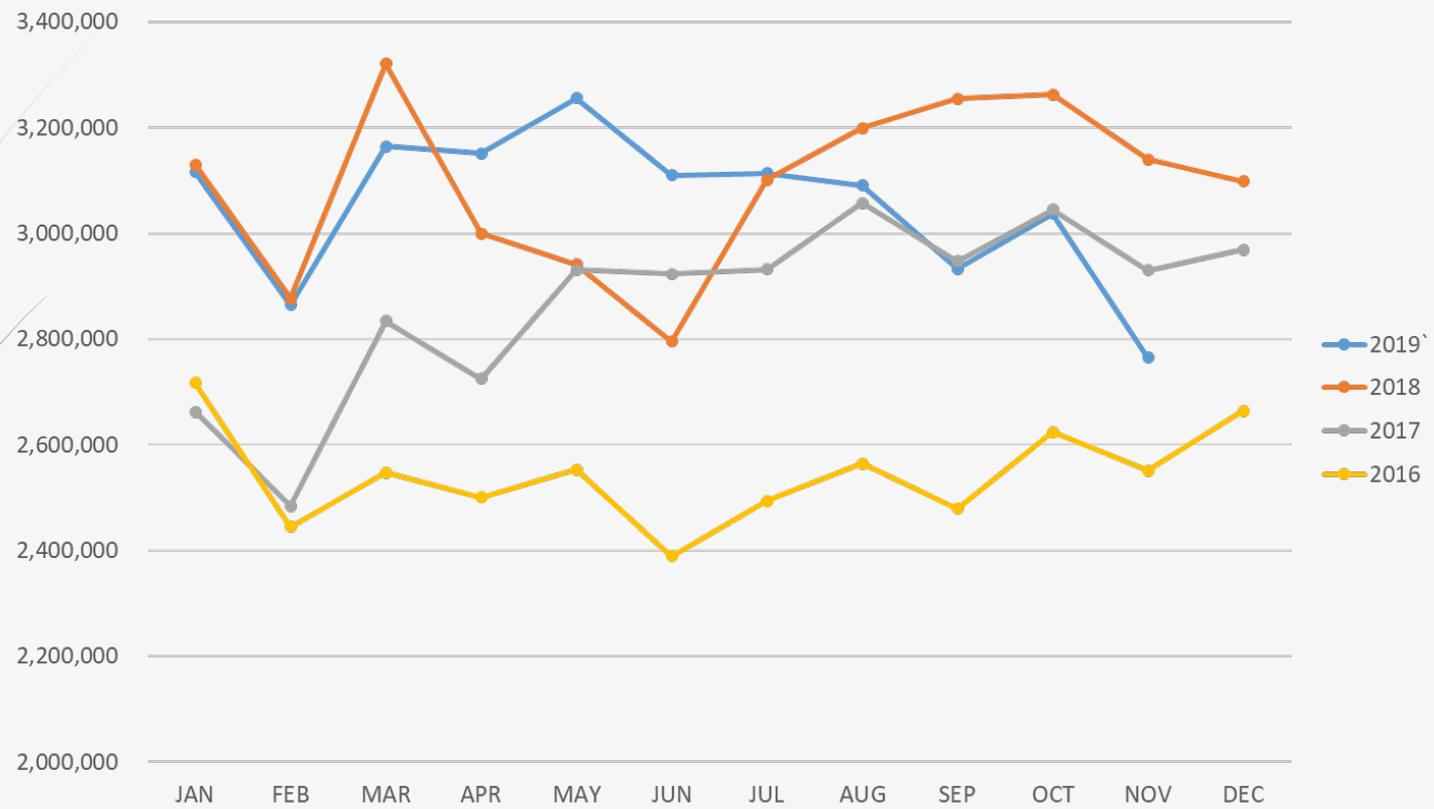


2019 Utah - Oil Production  
By Year (Millions)



\*2019 information complete through November

2019 Utah - Oil Production  
By Month



\*2019 information complete through November

## 2020 Expectations

### Supply

- Global Decrease due to OPEC cutting production
- U.S. supply leads to Net Exports in 2020

### Demand

- Increased globally
- Slow demand growth in U.S.

### U. S. Production

- U.S. production expected to increase



47

## **R884-24P-10**

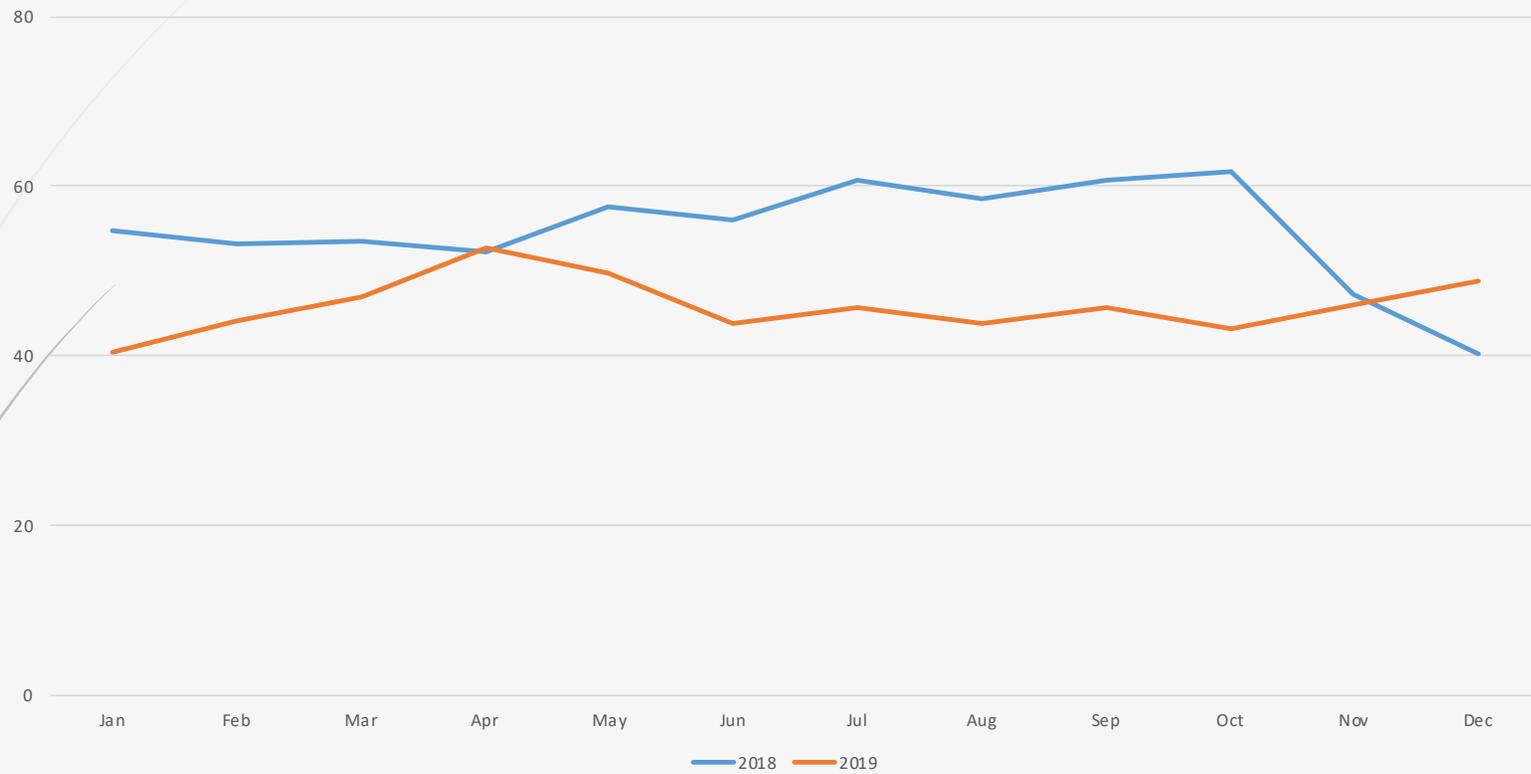
### “Product Price”

- Starting price is the weighted average posted price of the previous year

## Paradox Basin/Sweet – “Marathon”

	Posting	2018	2019	%
Month	Days	Price	Price	Change
January	31	\$54.85	\$40.48	-26%
February	28	\$53.38	\$44.07	-17%
March	31	\$53.45	\$47.09	-12%
April	30	\$52.19	\$52.79	1%
May	31	\$57.79	\$49.89	-14%
June	30	\$56.10	\$43.86	-22%
July	31	\$60.66	\$46.50	-23%
August	31	\$58.45	\$43.84	-25%
September	30	\$60.78	\$45.68	-25%
October	31	\$61.79	\$43.13	-30%
November	30	\$47.39	\$46.08	-3%
December	31	\$40.29	\$48.84	21%
Year End Weighted Average Price \$/BBL		\$54.76	<b>\$46.02</b>	-15%

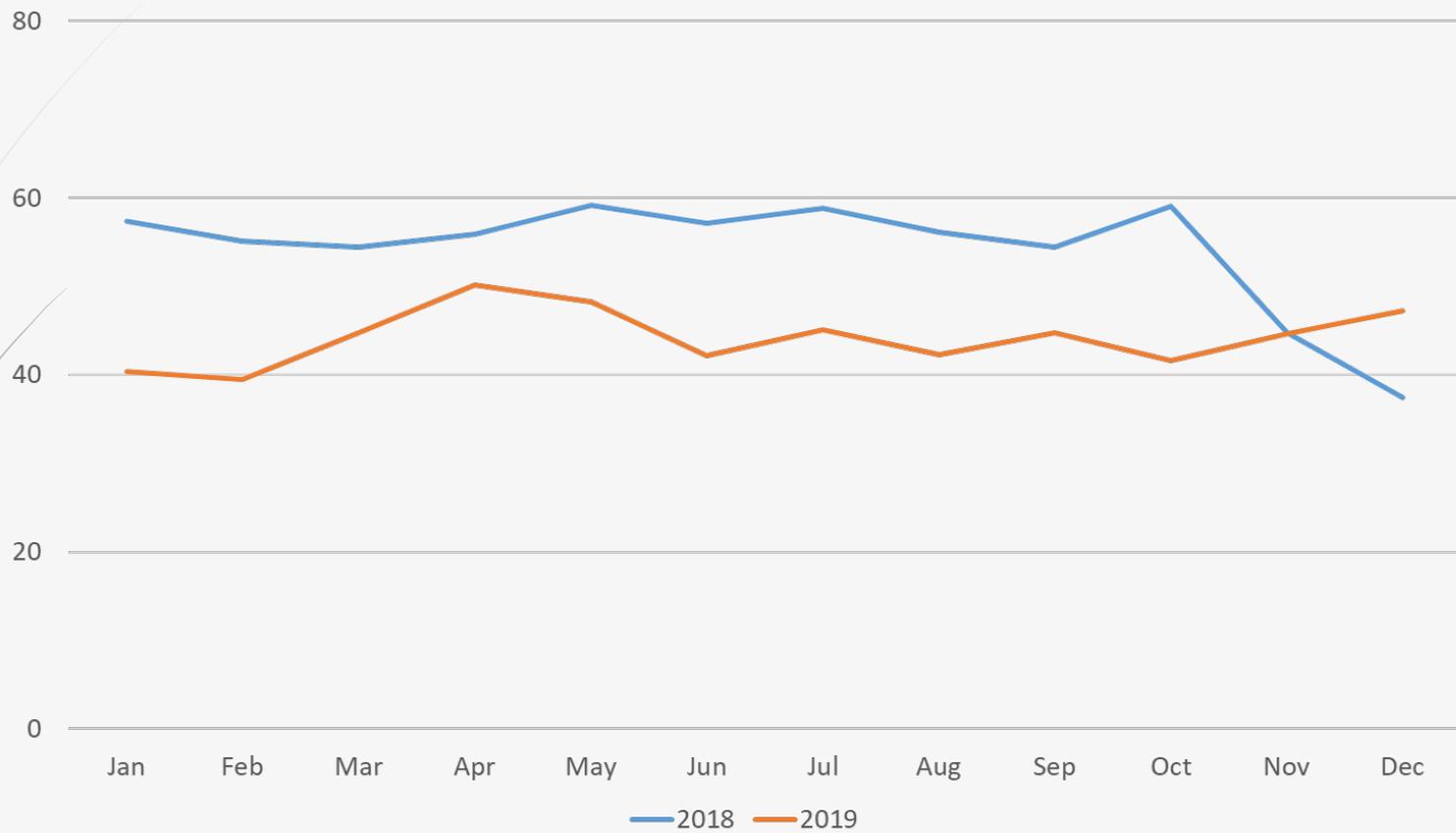
Weighted Crude Oil Posted Prices  
Paradox Basin/Sweet - "Giant"



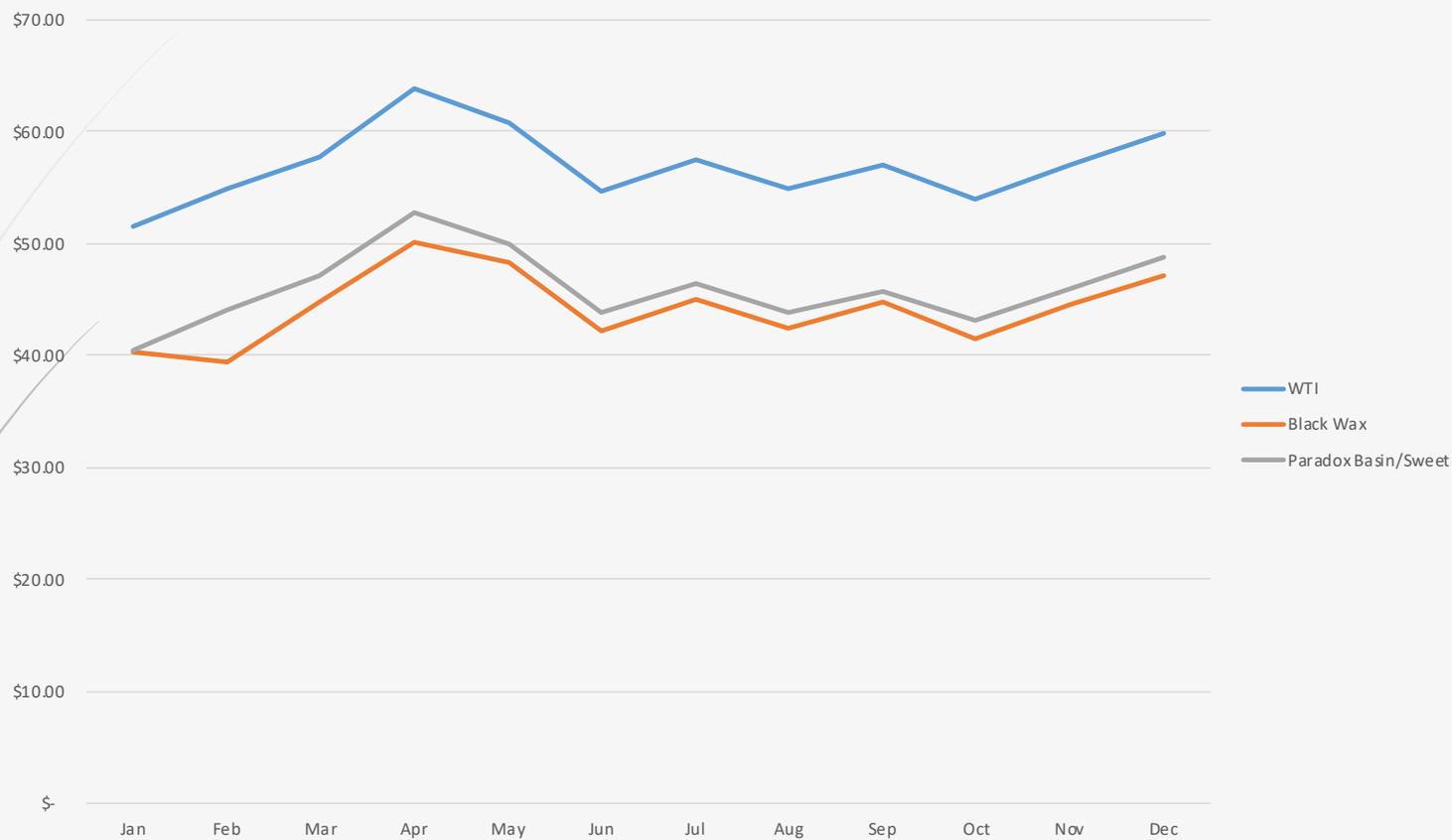
## Uinta Basin Black Wax – “Chevron”

	Posting	2018	2019	%
Month	Days	Price	Price	Change
January	31	\$57.40	\$40.32	-30%
February	28	\$55.10	\$39.43	-28%
March	31	\$54.49	\$44.74	-18%
April	30	\$55.89	\$50.14	-10%
May	31	\$59.18	\$48.26	-18%
June	30	\$57.09	\$42.21	-26%
July	31	\$58.83	\$45.12	-23%
August	31	\$56.14	\$42.33	-25%
September	30	\$58.48	\$44.74	-24%
October	31	\$59.00	\$41.62	-24%
November	30	\$44.73	\$44.65	<1%
December	31	\$37.39	\$47.27	26%
Year End Weighted Average Price \$/BBL		\$54.48	<b>\$44.24</b>	-17%

Weighted Crude Oil Posted Prices  
Uinta Basin Black Wax



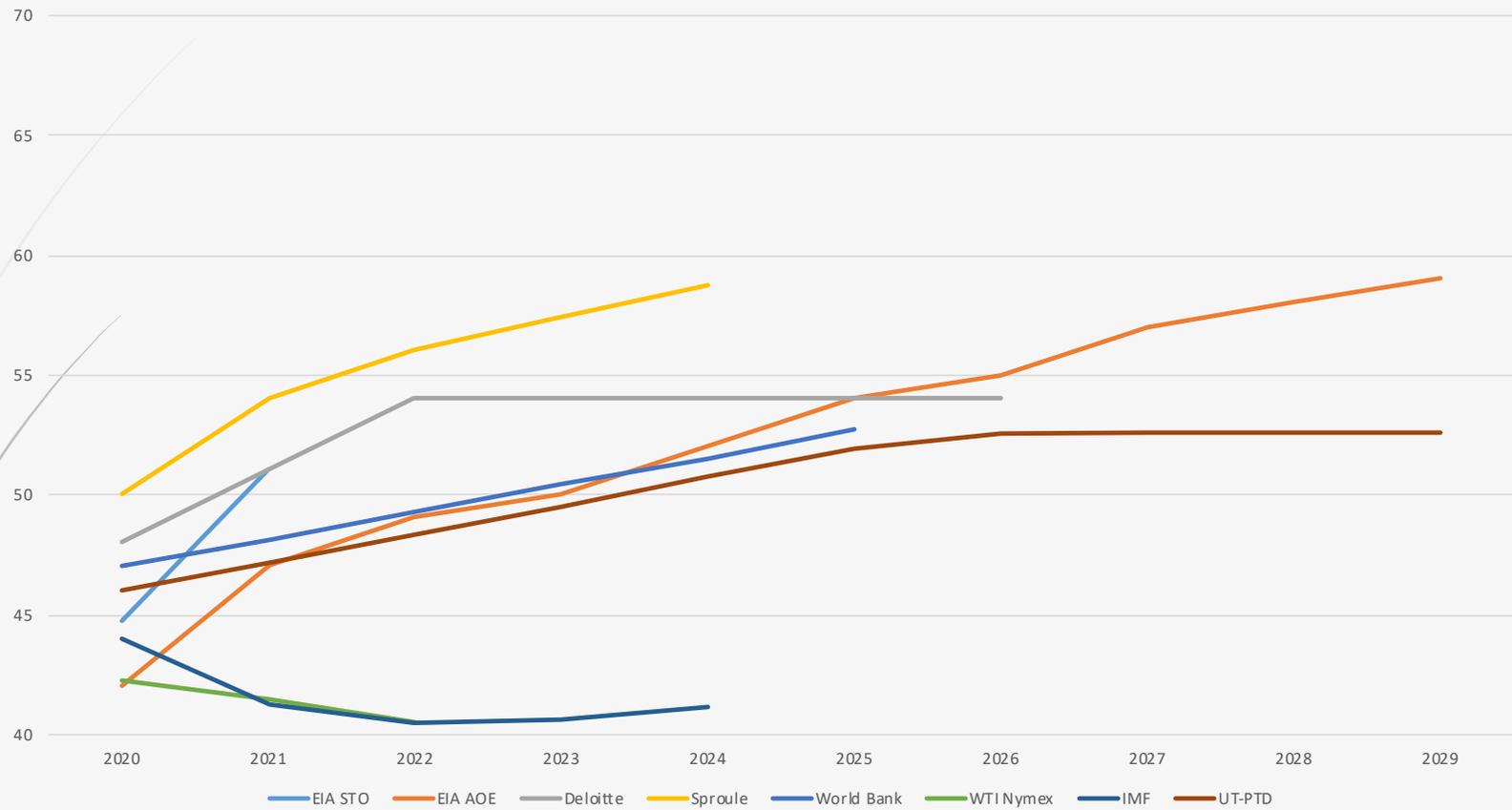
WTI Differentials Monthly 2019



## Nymex – Paradox Basin/Sweet Differential

The differential between the average posted NYMEX prices and the Paradox Basin/Sweet Prices is \$10.96

Paradox Basin Oil Forecast 2020



## 2020 Oil Price Forecast

### Paradox Basin

Forecast of 10 Year's Prices

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Average of 2019 Monthly Prices	<b>46.02</b>										
Forecast	47.16	48.32	49.51	50.72	51.95	52.58	52.60	52.60	52.60	52.60	52.60
% Increase / Decrease		2.0%	2.0%	2.0%	2.0%	2.0%	1.0%	0.0%	0.0%	0.0%	0.0%

## Sources for Natural Gas & Oil Price Forecasting

- U.S. EIA – United States Energy Information Administration
- International Monetary Fund
- Bank of America – Merrill Lynch
- Societe Generale
- Kinder Morgan
- NGSA- Natural Gas Supply Association
- NYMEX – (CME Group)
- Sproule Associates
- AJM Deloitte
- Texas Comptroller
- World Bank