

**Deloitte Resource Evaluation & Advisory**  
**Canadian Domestic Forecast**  
**Base Case Forecast Effective September 30 2015**

					Crude Oil Pricing							Natural Gas Liquids Pricing Edmonton Par Prices					Natural Gas Pricing						Sulphur	
		Price Inflation Rate	Cost Inflation Rate	CAD to USD Exchange Rate	WTI at Cushing Oklahoma US\$/bbl	WTI at Cushing Oklahoma US\$/bbl	Edmonton City Gate C\$/bbl	Edmonton City Gate C\$/bbl	WCS 20.5 Deg. API Hardisty C\$/bbl	Bow River 25 Deg. API Hardisty C\$/bbl	Heavy Oil 12 Deg. API Hardisty C\$/bbl	Ethane C\$/bbl	Propane C\$/bbl	Butane C\$/bbl	Pentanes + Condensate C\$/bbl	Alberta Reference Average Price C\$/mcf	Alberta AECO Average Price C\$/mcf	Alberta AECO Average Price C\$/mcf	B.C. Direct Stn. 2 Sales C\$/mcf	NYMEX Henry Hub US\$/Mcf	NYMEX Henry Hub US\$/Mcf	Alberta Plant Gate C\$/lt		
					Real	Current	Real	Current	Current	Current	Current	Current	Current	Current	Current	Current	Current	Current	Current	Current	Current	Current	Current	Current
H	2005	2.2%	2.2%	0.826	\$67.93	\$56.56	\$83.21	\$69.29	\$44.60	\$45.62	\$33.70	\$23.78	\$43.19	\$51.88	\$74.72	\$8.30	\$10.53	\$8.76	\$8.22	\$10.58	\$8.81	\$40.99		
i	2006	2.0%	2.0%	0.882	\$77.51	\$66.02	\$86.04	\$73.28	\$51.22	\$51.90	\$39.53	\$19.83	\$44.07	\$58.16	\$78.18	\$6.56	\$7.68	\$6.54	\$6.58	\$7.92	\$6.75	\$19.53		
s	2007	2.1%	2.1%	0.935	\$83.19	\$72.32	\$88.64	\$77.05	\$52.90	\$53.87	\$39.76	\$18.42	\$49.75	\$59.35	\$81.64	\$6.20	\$7.42	\$6.45	\$6.40	\$8.03	\$6.98	\$38.02		
t	2008	2.4%	2.4%	0.943	\$112.10	\$99.57	\$115.73	\$102.80	\$82.95	\$83.90	\$73.08	\$22.59	\$56.96	\$83.54	\$109.82	\$7.88	\$9.18	\$8.16	\$8.20	\$9.98	\$8.86	\$303.83		
o	2009	0.3%	0.3%	0.880	\$67.76	\$61.65	\$72.64	\$66.10	\$58.66	\$59.80	\$54.40	\$11.61	\$34.62	\$56.21	\$69.52	\$3.85	\$4.35	\$3.96	\$4.17	\$4.34	\$3.95	(\$5.08)		
r	2010	1.8%	1.8%	0.971	\$86.99	\$79.40	\$85.25	\$77.80	\$67.22	\$68.18	\$60.62	\$11.53	\$45.19	\$68.79	\$84.06	\$3.76	\$4.39	\$4.01	\$4.01	\$4.81	\$4.39	\$56.94		
i	2011	2.9%	2.9%	1.012	\$102.13	\$94.88	\$102.84	\$95.54	\$77.12	\$78.42	\$69.60	\$10.30	\$52.41	\$86.98	\$105.29	\$3.46	\$3.91	\$3.63	\$3.34	\$4.31	\$4.00	\$101.60		
c	2012	1.5%	1.5%	1.001	\$98.34	\$94.11	\$90.47	\$86.57	\$73.10	\$74.41	\$64.07	\$6.73	\$30.80	\$75.47	\$99.71	\$2.25	\$2.50	\$2.39	\$2.29	\$2.88	\$2.75	\$126.81		
a	2013	0.9%	0.9%	0.972	\$100.76	\$97.91	\$96.08	\$93.36	\$74.97	\$76.29	\$65.49	\$8.68	\$38.54	\$77.44	\$103.57	\$2.98	\$3.27	\$3.17	\$3.08	\$3.84	\$3.73	\$62.17		
l	2014	1.9%	1.9%	0.906	\$95.07	\$93.26	\$97.36	\$95.50	\$81.06	\$81.49	\$73.70	\$12.46	\$38.38	\$57.08	\$100.95	\$4.22	\$4.59	\$4.50	\$4.34	\$4.48	\$4.39	\$88.99		
2	9 Mths H	1.2%	1.2%	0.795	\$51.16	\$51.16	\$60.21	\$60.21	\$48.68	\$49.22	\$43.42	\$7.69	\$1.65	\$25.83	\$55.36	\$2.63	\$2.77	\$2.77	\$2.62	\$2.82	\$2.82	\$114.27		
0	3 Mths F	0.0%	0.0%	0.760	\$47.50	\$47.50	\$57.25	\$57.25	\$46.25	\$47.25	\$41.25	\$8.00	\$2.85	\$22.90	\$54.40	\$2.75	\$2.90	\$2.90	\$2.75	\$2.80	\$2.80	\$100.00		
1																								
5	Avg.	N/A	N/A	0.786	\$50.24	\$50.24	\$59.47	\$59.47	\$48.07	\$48.73	\$42.88	\$7.77	\$1.95	\$25.10	\$55.12	\$2.66	\$2.80	\$2.80	\$2.65	\$2.81	\$2.81	\$110.70		
F	2015	0.0%	0.0%	0.760	\$47.50	\$47.50	\$57.25	\$57.25	\$46.25	\$47.25	\$41.25	\$8.00	\$2.85	\$22.90	\$54.40	\$2.75	\$2.90	\$2.90	\$2.75	\$2.80	\$2.80	\$100.00		
o	2016	2.0%	2.0%	0.760	\$52.50	\$53.55	\$63.80	\$65.10	\$50.80	\$51.80	\$44.70	\$9.30	\$9.75	\$32.55	\$65.10	\$3.20	\$3.30	\$3.35	\$3.20	\$3.10	\$3.15	\$102.00		
r	2017	2.0%	2.0%	0.780	\$55.00	\$57.20	\$65.40	\$68.05	\$53.50	\$54.50	\$47.25	\$10.15	\$17.00	\$40.85	\$68.05	\$3.55	\$3.55	\$3.70	\$3.55	\$3.35	\$3.50	\$104.05		
e	2018	2.0%	2.0%	0.800	\$60.00	\$63.65	\$70.00	\$74.30	\$59.45	\$60.50	\$53.05	\$10.65	\$22.30	\$44.55	\$74.30	\$3.70	\$3.65	\$3.85	\$3.70	\$3.50	\$3.70	\$106.10		
c	2019	2.0%	2.0%	0.800	\$65.00	\$70.35	\$76.25	\$82.55	\$67.40	\$68.45	\$60.90	\$11.65	\$24.80	\$49.50	\$82.55	\$4.05	\$3.90	\$4.20	\$4.05	\$3.70	\$4.00	\$108.25		
a	2020	2.0%	2.0%	0.800	\$70.00	\$77.30	\$82.50	\$91.10	\$75.65	\$76.75	\$69.00	\$12.30	\$27.35	\$54.65	\$91.10	\$4.30	\$4.05	\$4.45	\$4.30	\$3.85	\$4.25	\$110.40		
s	2021	2.0%	2.0%	0.800	\$75.00	\$84.45	\$88.75	\$99.95	\$84.20	\$85.30	\$77.40	\$13.20	\$30.00	\$59.95	\$99.95	\$4.60	\$4.25	\$4.80	\$4.60	\$4.00	\$4.50	\$112.60		
t	2022	2.0%	2.0%	0.800	\$80.00	\$91.90	\$95.00	\$109.15	\$93.05	\$94.20	\$86.15	\$13.90	\$32.75	\$65.50	\$109.15	\$4.90	\$4.40	\$5.05	\$4.90	\$4.10	\$4.70	\$114.85		
	2023	2.0%	2.0%	0.800	\$80.00	\$93.75	\$95.00	\$111.30	\$94.90	\$96.10	\$87.85	\$14.65	\$33.40	\$66.80	\$111.30	\$5.15	\$4.55	\$5.35	\$5.15	\$4.25	\$5.00	\$117.15		
	2024	2.0%	2.0%	0.800	\$80.00	\$95.60	\$95.00	\$113.55	\$96.80	\$98.00	\$89.65	\$15.30	\$34.05	\$68.10	\$113.55	\$5.40	\$4.65	\$5.55	\$5.40	\$4.30	\$5.15	\$119.50		
	2025	2.0%	2.0%	0.800	\$80.00	\$97.50	\$95.00	\$115.80	\$98.75	\$99.95	\$91.40	\$15.80	\$34.75	\$69.50	\$115.80	\$5.55	\$4.70	\$5.75	\$5.55	\$4.35	\$5.30	\$121.90		
	2026	2.0%	2.0%	0.800	\$80.00	\$99.45	\$95.00	\$118.10	\$100.70	\$101.95	\$93.25	\$16.40	\$35.45	\$70.85	\$118.10	\$5.80	\$4.80	\$5.95	\$5.80	\$4.45	\$5.55	\$124.35		
	2027	2.0%	2.0%	0.800	\$80.00	\$101.45	\$95.00	\$120.50	\$102.75	\$104.00	\$95.10	\$17.25	\$36.15	\$72.30	\$120.50	\$6.10	\$4.95	\$6.30	\$6.10	\$4.55	\$5.75	\$126.80		
	2028	2.0%	2.0%	0.800	\$80.00	\$103.50	\$95.00	\$122.90	\$104.80	\$106.10	\$97.00	\$17.60	\$36.85	\$73.75	\$122.90	\$6.20	\$4.95	\$6.40	\$6.20	\$4.55	\$5.90	\$129.35		
	2029	2.0%	2.0%	0.800	\$80.00	\$105.55	\$95.00	\$125.35	\$106.90	\$108.20	\$98.95	\$17.95	\$37.60	\$75.20	\$125.35	\$6.35	\$4.95	\$6.55	\$6.35	\$4.55	\$6.00	\$131.95		
	2030	2.0%	2.0%	0.800	\$80.00	\$107.65	\$95.00	\$127.85	\$109.00	\$110.35	\$100.95	\$18.30	\$38.35	\$76.70	\$127.85	\$6.45	\$4.95	\$6.65	\$6.45	\$4.55	\$6.10	\$134.60		
	2031	2.0%	2.0%	0.800	\$80.00	\$109.80	\$95.00	\$130.40	\$111.20	\$112.55	\$102.95	\$18.65	\$39.10	\$78.25	\$130.40	\$6.60	\$4.95	\$6.80	\$6.60	\$4.55	\$6.25	\$137.30		
	2032	2.0%	2.0%	0.800	\$80.00	\$112.00	\$95.00	\$133.00	\$113.40	\$114.80	\$105.00	\$19.05	\$39.90	\$79.80	\$133.00	\$6.70	\$4.95	\$6.95	\$6.70	\$4.55	\$6.35	\$140.00		
	2033	2.0%	2.0%	0.800	\$80.00	\$114.25	\$95.00	\$135.70	\$115.70	\$117.10	\$107.10	\$19.40	\$40.70	\$81.40	\$135.70	\$6.85	\$4.95	\$7.05	\$6.85	\$4.55	\$6.50	\$142.80		
	2034	2.0%	2.0%	0.800	\$80.00	\$116.55	\$95.00	\$138.40	\$118.00	\$119.45	\$109.25	\$19.80	\$41.50	\$83.05	\$138.40	\$7.00	\$4.95	\$7.20	\$7.00	\$4.55	\$6.65	\$145.70		
	2034+	2.0%	2.0%	0.800	0.0%	2.0%	0.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	0.0%	2.0%	2.0%	0.0%	2.0%	2.0%		

Notes:

- All prices are in Canadian dollars except WTI and NYMEX gas which are in U.S. dollars
- Edmonton city gate prices based on historical light oil par prices posted by the government of Alberta and Net Energy differential futures (40 Deg. API < 0.5% Sulphur)
- Natural Gas Liquid prices are forecasted at Edmonton therefore an additional transportation cost must be included to plant gate sales point
- 1 Mcf is equivalent to 1 mmbtu
- Real prices listed in 2015 dollars with no escalation considered
- Alberta gas prices, except AECO, include an average cost of service to the plant gate

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**Deloitte Resource Evaluation & Advisory**  
**Canadian Domestic Forecast - Additional Crude Reference Prices**  
**Base Case Forecast Effective September 30 2015**

					Crude Oil Pricing												Natural Gas
					WTI at Cushing Oklahoma	WTI at Cushing Oklahoma	Edmonton City Gate	Edmonton City Gate	Lt. Sour 35 Deg. API	MSO 31 Deg. API	Bow River 25 Deg. API	WCS 20.5 Deg. API	Heavy Oil 12 Deg. API	Synbit (AWB) 70% Bitumen 30% Cond. 21 Deg. API	Delivered to Sarnia MSW	Ontario Dawn Reference Point	
					US\$/bbl	US\$/bbl	C\$/bbl	C\$/bbl	C\$/bbl	C\$/bbl	C\$/bbl	C\$/bbl	C\$/bbl	C\$/bbl	C\$/bbl	C\$/mcf	
					Real	Current	Real	Current	Current	Current	Current	Current	Current	Current	Current	Current	
		Price Inflation Rate	Cost Inflation Rate	CAD to USD Exchange Rate													
H	2005	2.2%	2.2%	0.826	\$67.93	\$56.56	\$83.21	\$69.29	\$62.31	\$56.26	\$45.62	\$44.60	\$33.70	\$46.01	\$71.30	\$10.67	
i	2006	2.0%	2.0%	0.882	\$77.51	\$66.02	\$86.04	\$73.28	\$66.08	\$61.45	\$51.90	\$51.22	\$39.53	\$51.12	\$75.37	\$7.76	
s	2007	2.1%	2.1%	0.935	\$83.19	\$72.32	\$88.64	\$77.05	\$70.06	\$64.87	\$53.87	\$52.90	\$39.76	\$52.33	\$78.48	\$7.43	
t	2008	2.4%	2.4%	0.943	\$112.10	\$99.57	\$115.73	\$102.80	\$95.28	\$92.40	\$83.90	\$82.95	\$73.08	\$84.10	\$109.21	\$9.88	
o	2009	0.3%	0.3%	0.880	\$67.76	\$61.65	\$72.64	\$66.10	\$64.04	\$63.76	\$59.80	\$58.66	\$54.40	\$58.94	\$69.29	\$4.80	
r	2010	1.8%	1.8%	0.971	\$86.99	\$79.40	\$85.25	\$77.80	\$76.40	\$72.32	\$68.18	\$67.22	\$60.62	\$67.65	\$81.48	\$4.79	
i	2011	2.9%	2.9%	1.012	\$102.13	\$94.88	\$102.84	\$95.54	\$92.13	\$83.39	\$78.42	\$77.12	\$69.60	\$80.30	\$99.26	\$4.34	
c	2012	1.5%	1.5%	1.001	\$98.34	\$94.11	\$90.47	\$86.57	\$84.27	\$77.53	\$74.41	\$73.10	\$64.07	\$74.76	\$90.36	\$3.11	
a	2013	0.9%	0.9%	0.972	\$100.76	\$97.91	\$96.08	\$93.36	\$91.76	\$82.65	\$76.29	\$74.97	\$65.49	\$76.91	\$97.33	\$4.13	
l	2014	1.9%	1.9%	0.906	\$95.07	\$93.26	\$97.36	\$95.50	\$92.91	\$89.39	\$81.49	\$81.06	\$73.70	\$81.87	\$98.19	\$5.76	
2	9 Mths H	1.2%	1.2%	0.795	\$51.16	\$51.16	\$60.21	\$60.21	\$57.03	\$56.66	\$49.22	\$48.68	\$43.42	\$47.00	\$67.20	\$3.86	
0	3 Mths F	0.0%	0.0%	0.760	\$47.50	\$47.50	\$57.25	\$57.25	\$53.75	\$54.25	\$47.25	\$46.25	\$41.25	\$45.20	\$64.25	\$4.00	
1																	
5	Avg.	N/A	N/A	0.786	\$50.24	\$50.24	\$59.47	\$59.47	\$56.21	\$56.06	\$48.73	\$48.07	\$42.88	\$46.55	\$66.46	\$3.89	
F	2015	0.0%	0.0%	0.760	\$47.50	\$47.50	\$57.25	\$57.25	\$53.75	\$54.25	\$47.25	\$46.25	\$41.25	\$45.20	\$64.25	\$4.00	
o	2016	2.0%	2.0%	0.760	\$52.50	\$53.55	\$63.80	\$65.10	\$61.50	\$58.95	\$51.80	\$50.80	\$44.70	\$50.80	\$70.20	\$4.50	
r	2017	2.0%	2.0%	0.780	\$55.00	\$57.20	\$65.40	\$68.05	\$64.40	\$61.80	\$54.50	\$53.50	\$47.25	\$53.50	\$73.25	\$4.85	
e	2018	2.0%	2.0%	0.800	\$60.00	\$63.65	\$70.00	\$74.30	\$70.55	\$67.90	\$60.50	\$59.45	\$53.05	\$59.45	\$79.60	\$5.05	
c	2019	2.0%	2.0%	0.800	\$65.00	\$70.35	\$76.25	\$82.55	\$78.75	\$76.05	\$68.45	\$67.40	\$60.90	\$67.40	\$87.95	\$5.40	
a	2020	2.0%	2.0%	0.800	\$70.00	\$77.30	\$82.50	\$91.10	\$87.20	\$84.45	\$76.75	\$75.65	\$69.00	\$75.65	\$96.60	\$5.70	
s	2021	2.0%	2.0%	0.800	\$75.00	\$84.45	\$88.75	\$99.95	\$96.00	\$93.20	\$85.30	\$84.20	\$77.40	\$84.20	\$105.60	\$6.00	
t	2022	2.0%	2.0%	0.800	\$80.00	\$91.90	\$95.00	\$109.15	\$105.10	\$102.25	\$94.20	\$93.05	\$86.15	\$93.05	\$114.85	\$6.30	
	2023	2.0%	2.0%	0.800	\$80.00	\$93.75	\$95.00	\$111.30	\$107.20	\$104.30	\$96.10	\$94.90	\$87.85	\$94.90	\$117.15	\$6.60	
	2024	2.0%	2.0%	0.800	\$80.00	\$95.60	\$95.00	\$113.55	\$109.35	\$106.35	\$98.00	\$96.80	\$89.65	\$96.80	\$119.50	\$6.85	
	2025	2.0%	2.0%	0.800	\$80.00	\$97.50	\$95.00	\$115.80	\$111.55	\$108.50	\$99.95	\$98.75	\$91.40	\$98.75	\$121.90	\$7.05	
	2026	2.0%	2.0%	0.800	\$80.00	\$99.45	\$95.00	\$118.10	\$113.75	\$110.65	\$101.95	\$100.70	\$93.25	\$100.70	\$124.35	\$7.35	
	2027	2.0%	2.0%	0.800	\$80.00	\$101.45	\$95.00	\$120.50	\$116.05	\$112.85	\$104.00	\$102.75	\$95.10	\$102.75	\$126.80	\$7.65	
	2028	2.0%	2.0%	0.800	\$80.00	\$103.50	\$95.00	\$122.90	\$118.35	\$115.15	\$106.10	\$104.80	\$97.00	\$104.80	\$129.35	\$7.85	
	2029	2.0%	2.0%	0.800	\$80.00	\$105.55	\$95.00	\$125.35	\$120.75	\$117.45	\$108.20	\$106.90	\$98.95	\$106.90	\$131.95	\$8.00	
	2030	2.0%	2.0%	0.800	\$80.00	\$107.65	\$95.00	\$127.85	\$123.15	\$119.80	\$110.35	\$109.00	\$100.95	\$109.00	\$134.60	\$8.15	
	2031	2.0%	2.0%	0.800	\$80.00	\$109.80	\$95.00	\$130.40	\$125.60	\$122.20	\$112.55	\$111.20	\$102.95	\$111.20	\$137.30	\$8.30	
	2032	2.0%	2.0%	0.800	\$80.00	\$112.00	\$95.00	\$133.00	\$128.10	\$124.60	\$114.80	\$113.40	\$105.00	\$113.40	\$140.00	\$8.45	
	2033	2.0%	2.0%	0.800	\$80.00	\$114.25	\$95.00	\$135.70	\$130.70	\$127.10	\$117.10	\$115.70	\$107.10	\$115.70	\$142.80	\$8.65	
	2034	2.0%	2.0%	0.800	\$80.00	\$116.55	\$95.00	\$138.40	\$133.30	\$129.65	\$119.45	\$118.00	\$109.25	\$118.00	\$145.70	\$8.80	
	2034+	2.0%	2.0%	0.800	0.0%	2.0%	0.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	

Notes:

- All prices are in Canadian dollars except WTI and NYMEX gas which are in U.S. dollars
- Edmonton city gate prices based on historical light oil par prices posted by the government of Alberta and Net Energy differential futures (40 Deg. API < 0.5% Sulphur)
- 1 Mcf is equivalent to 1 mmbtu
- Real prices listed in 2015 dollars with no escalation considered
- Sarnia price is Edmonton Sweet (MSW) delivered to Sarnia, Ontario
- Synbit is a combined bitumen (70%) and Condensate (30%) stream equivalent to the Acces Western Blend (AWB).

**Deloitte**

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**Deloitte Resource Evaluation & Advisory**  
**International Forecast**  
**Base Case Forecast Effective September 30 2015**  
**Real Prices**

		Crude Oil Pricing																
		Average WTI Spot US\$/bbl Real	Alaskan North Slope US\$/bbl Real	California Kern River US\$/bbl Real	Louisiana Heavy Sweet US\$/bbl Real	Louisiana Light Sweet US\$/bbl Real	MARS Blend US\$/bbl Real	Wyoming Sweet US\$/bbl Real	Brent Spot US\$/bbl Real	Gulf Coast		Average OPEC Basket US\$/bbl Real	Venezuelan Merrey US\$/bbl Real	Nigerian Bonny Light US\$/bbl Real	Arabia UAE Dubai Feth US\$/bbl Real	Mexico Maya US\$/bbl Real	Russia Urals US\$/bbl Real	Indonesia Minas US\$/bbl Real
										Argus Sour	Crude Index							
										ASCI	US\$/bbl							
F	2015	\$47.50	\$43.50	\$44.50	\$47.50	\$48.50	\$45.50	\$39.00	\$52.50	\$45.50	\$49.50	\$42.50	\$53.00	\$51.00	\$44.50	\$51.50	\$51.00	
o	2016	\$52.50	\$48.50	\$49.50	\$52.50	\$53.50	\$50.50	\$44.00	\$57.50	\$50.50	\$54.50	\$47.50	\$58.00	\$56.00	\$49.50	\$56.50	\$56.00	
r	2017	\$55.00	\$51.00	\$52.00	\$55.00	\$56.00	\$53.00	\$46.50	\$60.00	\$53.00	\$57.00	\$50.00	\$60.50	\$58.50	\$52.00	\$59.00	\$58.50	
e	2018	\$60.00	\$56.00	\$57.00	\$60.00	\$61.00	\$58.00	\$51.50	\$65.00	\$58.00	\$62.00	\$55.00	\$65.50	\$63.50	\$57.00	\$64.00	\$63.50	
c	2019	\$65.00	\$61.00	\$62.00	\$65.00	\$66.00	\$63.00	\$56.50	\$70.00	\$63.00	\$67.00	\$60.00	\$70.50	\$68.50	\$62.00	\$69.00	\$68.50	
a	2020	\$70.00	\$66.00	\$67.00	\$70.00	\$71.00	\$68.00	\$61.50	\$75.00	\$68.00	\$72.00	\$65.00	\$75.50	\$73.50	\$67.00	\$74.00	\$73.50	
s	2021	\$75.00	\$71.00	\$72.00	\$75.00	\$76.00	\$73.00	\$66.50	\$80.00	\$73.00	\$77.00	\$70.00	\$80.50	\$78.50	\$72.00	\$79.00	\$78.50	
t	2022	\$80.00	\$76.00	\$77.00	\$80.00	\$81.00	\$78.00	\$71.50	\$85.00	\$78.00	\$82.00	\$75.00	\$85.50	\$83.50	\$77.00	\$84.00	\$83.50	
	2023	\$80.00	\$76.00	\$77.00	\$80.00	\$81.00	\$78.00	\$71.50	\$85.00	\$78.00	\$82.00	\$75.00	\$85.50	\$83.50	\$77.00	\$84.00	\$83.50	
	2024	\$80.00	\$76.00	\$77.00	\$80.00	\$81.00	\$78.00	\$71.50	\$85.00	\$78.00	\$82.00	\$75.00	\$85.50	\$83.50	\$77.00	\$84.00	\$83.50	
	2025	\$80.00	\$76.00	\$77.00	\$80.00	\$81.00	\$78.00	\$71.50	\$85.00	\$78.00	\$82.00	\$75.00	\$85.50	\$83.50	\$77.00	\$84.00	\$83.50	
	2026	\$80.00	\$76.00	\$77.00	\$80.00	\$81.00	\$78.00	\$71.50	\$85.00	\$78.00	\$82.00	\$75.00	\$85.50	\$83.50	\$77.00	\$84.00	\$83.50	
	2027	\$80.00	\$76.00	\$77.00	\$80.00	\$81.00	\$78.00	\$71.50	\$85.00	\$78.00	\$82.00	\$75.00	\$85.50	\$83.50	\$77.00	\$84.00	\$83.50	
	2028	\$80.00	\$76.00	\$77.00	\$80.00	\$81.00	\$78.00	\$71.50	\$85.00	\$78.00	\$82.00	\$75.00	\$85.50	\$83.50	\$77.00	\$84.00	\$83.50	
	2029	\$80.00	\$76.00	\$77.00	\$80.00	\$81.00	\$78.00	\$71.50	\$85.00	\$78.00	\$82.00	\$75.00	\$85.50	\$83.50	\$77.00	\$84.00	\$83.50	
	2030	\$80.00	\$76.00	\$77.00	\$80.00	\$81.00	\$78.00	\$71.50	\$85.00	\$78.00	\$82.00	\$75.00	\$85.50	\$83.50	\$77.00	\$84.00	\$83.50	
	2031	\$80.00	\$76.00	\$77.00	\$80.00	\$81.00	\$78.00	\$71.50	\$85.00	\$78.00	\$82.00	\$75.00	\$85.50	\$83.50	\$77.00	\$84.00	\$83.50	
	2032	\$80.00	\$76.00	\$77.00	\$80.00	\$81.00	\$78.00	\$71.50	\$85.00	\$78.00	\$82.00	\$75.00	\$85.50	\$83.50	\$77.00	\$84.00	\$83.50	
	2033	\$80.00	\$76.00	\$77.00	\$80.00	\$81.00	\$78.00	\$71.50	\$85.00	\$78.00	\$82.00	\$75.00	\$85.50	\$83.50	\$77.00	\$84.00	\$83.50	
	2034	\$80.00	\$76.00	\$77.00	\$80.00	\$81.00	\$78.00	\$71.50	\$85.00	\$78.00	\$82.00	\$75.00	\$85.50	\$83.50	\$77.00	\$84.00	\$83.50	
	2034+	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

		Natural Gas Pricing										Ethanol
		USD to GBP Exchange Rate	USD to EUR Exchange Rate	NYMEX Henry Hub US\$/Mcf Real	Permian Waha US\$/Mcf Real	San Juan Ignacio US\$/Mcf Real	Gulf Coast (onshore) US\$/Mcf Real	Louisiana East Texas US\$/Mcf Real	Rocky Mtn. Opal US\$/Mcf Real	UK NBP US\$/Mcf Real	India Domestic Gas US\$/Mcf Real	U.S. CBOT Ethanol US\$/gal. Real
F	2015	1.550	1.100	\$2.80	\$2.60	\$2.60	\$2.70	\$2.75	\$2.65	\$6.40	\$4.00	\$1.45
o	2016	1.550	1.100	\$3.10	\$2.90	\$2.90	\$3.00	\$3.05	\$2.95	\$6.50	\$3.15	\$1.45
r	2017	1.550	1.100	\$3.35	\$3.15	\$3.15	\$3.25	\$3.30	\$3.20	\$6.55	\$3.35	\$1.45
e	2018	1.550	1.100	\$3.50	\$3.30	\$3.30	\$3.40	\$3.45	\$3.35	\$6.60	\$3.45	\$1.45
c	2019	1.550	1.100	\$3.70	\$3.50	\$3.50	\$3.60	\$3.65	\$3.55	\$6.70	\$3.55	\$1.45
a	2020	1.550	1.100	\$3.85	\$3.65	\$3.65	\$3.75	\$3.80	\$3.70	\$6.85	\$3.70	\$1.45
s	2021	1.550	1.100	\$4.00	\$3.80	\$3.80	\$3.90	\$3.95	\$3.85	\$7.00	\$3.85	\$1.45
t	2022	1.550	1.100	\$4.10	\$3.90	\$3.90	\$4.00	\$4.05	\$3.95	\$7.10	\$4.00	\$1.45
	2023	1.550	1.100	\$4.25	\$4.05	\$4.05	\$4.15	\$4.20	\$4.10	\$7.25	\$4.10	\$1.45
	2024	1.550	1.100	\$4.30	\$4.10	\$4.10	\$4.20	\$4.25	\$4.15	\$7.30	\$4.25	\$1.45
	2025	1.550	1.100	\$4.35	\$4.15	\$4.15	\$4.25	\$4.30	\$4.20	\$7.35	\$4.30	\$1.45
	2026	1.550	1.100	\$4.45	\$4.25	\$4.25	\$4.35	\$4.40	\$4.30	\$7.45	\$4.35	\$1.45
	2027	1.550	1.100	\$4.55	\$4.35	\$4.35	\$4.45	\$4.50	\$4.40	\$7.55	\$4.45	\$1.45
	2028	1.550	1.100	\$4.55	\$4.35	\$4.35	\$4.45	\$4.50	\$4.40	\$7.55	\$4.55	\$1.45
	2029	1.550	1.100	\$4.55	\$4.35	\$4.35	\$4.45	\$4.50	\$4.40	\$7.55	\$4.55	\$1.45
	2030	1.550	1.100	\$4.55	\$4.35	\$4.35	\$4.45	\$4.50	\$4.40	\$7.55	\$4.55	\$1.45
	2031	1.550	1.100	\$4.55	\$4.35	\$4.35	\$4.45	\$4.50	\$4.40	\$7.55	\$4.55	\$1.45
	2032	1.550	1.100	\$4.55	\$4.35	\$4.35	\$4.45	\$4.50	\$4.40	\$7.55	\$4.55	\$1.45
	2033	1.550	1.100	\$4.55	\$4.35	\$4.35	\$4.45	\$4.50	\$4.40	\$7.55	\$4.55	\$1.45
	2034	1.550	1.100	\$4.55	\$4.35	\$4.35	\$4.45	\$4.50	\$4.40	\$7.55	\$4.55	\$1.45
	2034+	1.550	1.100	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Notes: Venezuelan Merey replaced BCF-17 in the OPEC basket March 1, 2009.

**Deloitte**

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**Deloitte Resource Evaluation & Advisory**  
**International Forecast**  
**Base Case Forecast Effective September 30 2015**  
**Escalated Prices**

		Crude Oil Pricing																	Natural Gas										Ethanol				
		USD to GBP		USD to EUR		Average		Alaska	California	Louisiana	Louisiana	Light	MARS	Wyoming	Brent	Gulf Coast	Average	Venezuelan	Nigerian	Arabia UAE	Mexico	Russia	Indonesia	NYMEX	Permian	San Juan	Gulf Coast	Louisiana	Rocky Mtn.	Opal	UK NBP	U.S.	
		Exchange	Exchange	WTI	North	Kern	Heavy	Sweet	Sweet	Sweet	Blend	Sweet	Spot	Argus	OPEC	Meruy	Bonny	Dubai	Fateh	Maya	Urals	Minas	Hub	Waha	Ignacio	(Onshore)	East Texas	Opal	U.S./Mcf	U.S./Mcf	U.S./Mcf	U.S./Mcf	
		Rate	Rate	Spot	Slope	River	Sweet	Sweet	Sweet	Sweet	Spot	Slope	Basket	U.S./Mcf	U.S./Mcf	U.S./Mcf	U.S./Mcf	U.S./Mcf	U.S./Mcf	U.S./Mcf	U.S./Mcf	U.S./Mcf	U.S./Mcf	U.S./Mcf	U.S./Mcf	U.S./Mcf	U.S./Mcf	U.S./Mcf	U.S./Mcf	U.S./Mcf	U.S./Mcf	U.S./Mcf	
H	2005	1.820	1.245	\$56.56	\$47.31	\$44.73	\$52.91	\$52.81	\$48.68	\$54.01	\$54.57	N/A	\$50.71	N/A	\$55.60	\$49.32	\$40.91	\$50.75	\$53.93	\$8.81	\$7.58	\$7.23	\$7.85	\$8.72	\$7.19	3.672869		N/A		N/A		N/A	
i	2006	1.843	1.256	\$66.02	\$56.97	\$55.00	\$63.31	\$63.64	\$57.15	\$60.41	\$65.15	N/A	\$61.08	N/A	\$66.81	\$61.51	\$51.20	\$61.34	\$65.20	\$6.75	\$5.90	\$5.81	\$6.36	\$6.72	\$5.35	4.955439		N/A		N/A		N/A	
s	2007	2.002	1.371	\$72.32	\$63.80	\$62.49	\$70.20	\$72.34	\$63.80	\$64.36	\$72.47	N/A	\$69.08	N/A	\$75.15	\$68.40	\$59.85	\$69.54	\$73.55	\$6.98	\$6.24	\$6.13	\$6.56	\$6.99	\$4.01	2.932821		N/A		N/A		N/A	
t	2008	1.852	1.470	\$99.57	\$91.24	\$87.20	\$103.62	\$100.82	\$94.61	\$98.38	\$96.85	N/A	\$94.43	N/A	\$100.24	\$93.48	\$83.33	\$94.51	\$100.25	\$8.86	\$7.44	\$7.20	\$8.48	\$8.89	\$6.52	\$6.14		N/A		N/A		N/A	
o	2009	1.565	1.393	\$61.65	\$54.84	\$53.09	\$58.78	\$60.29	\$56.51	\$51.73	\$61.49	N/A	\$61.06	N/A	\$53.01	\$61.65	\$56.41	\$60.70	\$58.84	\$3.95	\$3.43	\$3.34	\$3.76	\$3.96	\$3.14	\$4.53		\$1.72		N/A		N/A	
r	2010	1.546	1.328	\$79.40	\$72.17	\$72.83	\$78.16	\$79.32	\$75.60	\$70.44	\$79.68		\$75.60	\$77.45	\$69.68	\$70.70	\$78.04	\$70.07	\$78.01	\$0.00	\$4.39	\$4.16	\$4.09	\$4.29	\$4.38	\$3.94	\$6.41		\$1.80		N/A		N/A
i	2011	1.604	1.392	\$94.88	\$98.47	\$103.11	\$107.12	\$108.03	\$105.37	\$87.41	\$111.26		\$105.37	\$107.51	\$97.88	\$88.28	\$106.19	\$98.95	\$109.19	\$0.00	\$4.00	\$3.88	\$3.82	\$3.90	\$3.98	\$3.80	\$9.03		\$2.51		N/A		N/A
c	2012	1.586	1.286	\$94.11	\$98.35	\$103.69	\$107.18	\$107.19	\$104.82	\$85.04	\$111.99		\$104.82	\$109.46	\$100.11	\$111.61	\$109.11	\$99.74	\$110.50	\$110.64	\$2.75	\$2.64	\$2.64	\$2.68	\$2.74	\$2.67	\$9.47		\$2.31		N/A		N/A
a	2013	1.565	1.329	\$97.91	\$95.85	\$101.38	\$105.80	\$106.19	\$101.80	\$89.97	\$108.64		\$101.80	\$105.47	\$96.71	\$111.41	\$105.51	\$98.06	\$108.05	\$107.54	\$3.73	\$3.62	\$3.64	\$3.64	\$3.68	\$3.64	\$10.66		\$2.04		N/A		N/A
l	2014	1.647	1.329	\$93.26	\$86.45	\$90.38	\$96.16	\$94.25	\$92.95	\$83.50	\$99.02		\$92.95	\$96.29	\$86.79	\$100.77	\$96.61	\$85.81	\$98.01	\$98.63	\$4.39	\$4.28	\$4.28	\$4.31	\$4.04	\$4.34	\$8.24		\$1.93		N/A		N/A
F	2015	1.550	1.100	\$47.50	\$43.50	\$44.50	\$47.50	\$48.50	\$45.50	\$39.00	\$52.50		\$45.50	\$49.50	\$42.50	\$53.00	\$51.00	\$44.50	\$51.50	\$51.00	\$2.80	\$2.60	\$2.60	\$2.70	\$2.75	\$2.65	\$6.40		\$1.45		N/A		N/A
o	2016	1.550	1.100	\$53.55	\$49.45	\$50.50	\$53.55	\$54.55	\$51.50	\$44.90	\$58.65		\$51.50	\$55.60	\$48.45	\$59.15	\$57.10	\$50.50	\$57.65	\$57.10	\$3.15	\$2.95	\$2.95	\$3.05	\$3.10	\$3.00	\$6.65		\$1.50		N/A		N/A
r	2017	1.550	1.100	\$57.20	\$53.05	\$54.10	\$57.20	\$58.25	\$55.15	\$48.40	\$62.40		\$55.15	\$59.30	\$52.00	\$62.95	\$60.85	\$54.10	\$61.40	\$60.85	\$3.50	\$3.30	\$3.30	\$3.40	\$3.45	\$3.35	\$6.80		\$1.50		N/A		N/A
e	2018	1.550	1.100	\$63.65	\$59.45	\$60.50	\$63.65	\$64.75	\$61.55	\$54.65	\$69.00		\$61.55	\$65.80	\$58.35	\$69.50	\$67.40	\$60.50	\$67.90	\$67.40	\$3.70	\$3.50	\$3.50	\$3.60	\$3.65	\$3.55	\$7.00		\$1.55		N/A		N/A
c	2019	1.550	1.100	\$70.35	\$66.05	\$67.10	\$70.35	\$71.45	\$68.20	\$61.15	\$75.75		\$68.20	\$72.50	\$64.95	\$76.30	\$74.15	\$67.10	\$74.70	\$74.15	\$4.00	\$3.80	\$3.80	\$3.90	\$3.95	\$3.85	\$7.25		\$1.55		N/A		N/A
a	2020	1.550	1.100	\$77.30	\$72.85	\$73.95	\$77.30	\$78.40	\$75.10	\$67.90	\$82.80		\$75.10	\$79.50	\$71.75	\$83.35	\$81.15	\$73.95	\$81.70	\$81.15	\$4.25	\$4.05	\$4.05	\$4.15	\$4.20	\$4.10	\$7.55		\$1.60		N/A		N/A
s	2021	1.550	1.100	\$84.45	\$79.95	\$81.10	\$84.45	\$85.60	\$82.20	\$74.90	\$90.10		\$82.20	\$86.70	\$78.85	\$90.65	\$88.40	\$81.10	\$88.95	\$88.40	\$4.50	\$4.30	\$4.30	\$4.40	\$4.45	\$4.35	\$7.90		\$1.65		N/A		N/A
t	2022	1.550	1.100	\$91.90	\$87.30	\$88.45	\$91.90	\$93.05	\$89.60	\$82.15	\$97.65		\$89.60	\$94.20	\$86.15	\$98.20	\$95.90	\$88.45	\$96.50	\$95.90	\$4.70	\$4.50	\$4.50	\$4.60	\$4.65	\$4.55	\$8.15		\$1.65		N/A		N/A
	2023	1.550	1.100	\$93.75	\$89.05	\$90.20	\$93.75	\$94.90	\$91.40	\$83.75	\$99.60		\$91.40	\$96.10	\$87.85	\$100.20	\$97.85	\$90.20	\$98.40	\$97.85	\$5.00	\$4.75	\$4.75	\$4.85	\$4.90	\$4.80	\$8.50		\$1.70		N/A		N/A
	2024	1.550	1.100	\$95.60	\$90.85	\$92.00	\$95.60	\$96.80	\$93.20	\$85.45	\$101.60		\$93.20	\$98.00	\$89.65	\$102.20	\$99.80	\$92.00	\$100.40	\$99.80	\$5.15	\$4.90	\$4.90	\$5.00	\$5.10	\$4.95	\$8.70		\$1.75		N/A		N/A
	2025	1.550	1.100	\$97.50	\$92.65	\$93.85	\$97.50	\$98.75	\$95.10	\$87.15	\$103.60		\$95.10	\$99.95	\$91.40	\$104.20	\$101.80	\$93.85	\$102.40	\$101.80	\$5.30	\$5.05	\$5.05	\$5.20	\$5.25	\$5.10	\$8.95		\$1.75		N/A		N/A
	2026	1.550	1.100	\$99.45	\$94.50	\$95.75	\$99.45	\$100.70	\$97.00	\$88.90	\$105.70		\$97.00	\$101.95	\$93.25	\$106.30	\$103.80	\$95.75	\$104.45	\$103.80	\$5.55	\$5.30	\$5.30	\$5.40	\$5.45	\$5.35	\$9.25		\$1.80		N/A		N/A
	2027	1.550	1.100	\$101.45	\$96.40	\$97.65	\$101.45	\$102.75	\$98.90	\$90.70	\$107.80		\$98.90	\$104.00	\$95.10	\$108.45	\$105.90	\$97.65	\$106.55	\$105.90	\$5.75	\$5.50	\$5.50	\$5.65	\$5.70	\$5.60	\$9.60		\$1.85		N/A		N/A
	2028	1.550	1.100	\$103.50	\$98.30	\$99.60	\$103.50	\$104.80	\$100.90	\$92.50	\$109.95		\$100.90	\$106.10	\$97.00	\$110.60	\$108.00	\$99.60	\$108.65	\$108.00	\$5.90	\$5.65	\$5.65	\$5.75	\$5.80	\$5.70	\$9.75		\$1.90		N/A		N/A
	2029	1.550	1.100	\$105.55	\$100.30	\$101.60	\$105.55	\$106.90	\$102.90	\$94.35	\$112.15		\$102.90	\$108.20	\$98.95	\$112.80	\$110.20	\$101.60	\$110.85	\$110.20	\$6.00	\$5.75	\$5.75	\$5.85	\$5.95	\$5.80	\$9.95		\$1.90		N/A		N/A
	2030	1.550	1.100	\$107.65	\$102.30	\$103.65	\$107.65	\$109.00	\$105.00	\$96.25	\$114.40		\$105.00	\$110.35	\$100.95	\$115.05	\$112.40	\$103.65	\$113.05	\$112.40	\$6.10	\$5.85	\$5.85	\$6.00	\$6.05	\$5.90	\$10.15		\$1.95		N/A		N/A
	2031	1.550	1.100	\$109.80	\$104.35	\$105.70	\$109.80	\$111.20	\$107.10	\$98.15	\$116.70		\$107.10	\$112.55	\$102.95	\$117.35	\$114.65	\$105.70	\$115.30	\$114.65	\$6.25	\$5.95	\$5.95	\$6.10	\$6.20	\$6.05	\$10.35		\$2.00		N/A		N/A
	2032	1.550	1.100	\$112.00	\$106.40	\$107.80	\$112.00	\$113.40	\$109.20	\$100.10	\$119.00		\$109.20	\$114.80	\$105.00	\$119.70	\$116.90	\$107.80	\$117.60	\$116.90	\$6.35	\$6.10	\$6.10	\$6.25	\$6.30	\$6.15	\$10.55		\$2.05		N/A		N/A
	2033	1.550	1.100	\$114.25	\$108.55	\$109.95	\$114.25	\$115.70	\$111.40	\$102.10	\$121.40		\$111.40	\$117.10	\$107.10	\$122.10	\$119.25	\$109.95	\$119.95	\$119.25	\$6.50	\$6.20	\$6.20	\$6.35	\$6.45	\$6.30	\$10.80		\$2.05		N/A		N/A
	2034	1.550	1.100	\$116.55	\$110.70	\$112.15	\$116.55	\$118.00	\$113.65	\$104.15	\$123.85		\$113.65	\$119.45	\$109.25	\$124.55	\$121.65	\$112.15	\$122.35	\$121.65	\$6.65	\$6.35	\$6.35	\$6.50	\$6.55	\$6.40	\$11.00		\$2.10		N/A		N/A
2034+	1.550	1.100	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%		2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%

Notes: Venezuelan Meruy replaced BCF-17 in the OPEC basket March 1, 2009.

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