

**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	WTI at Cushing Oklahoma	Edmonton City Gate	Edmonton City Gate	WCS 20.5 Deg. API	Bow River 25 Deg. API	Heavy Oil 12 Deg. API	Ethane	Propane	Butane	Pentanes + Condensate	Alberta Reference Average Price	Alberta AECO Average Price	Alberta AECO Average Price	B.C. Direct Stn. 2 Sales	NYMEX Henry Hub	NYMEX Henry Hub	Alberta Plant Gate
				US\$/bbl Real	US\$/bbl Current	C\$/bbl Real	C\$/bbl Current	C\$/bbl Current	C\$/bbl Current	C\$/bbl Current	C\$/bbl Current	C\$/bbl Current	C\$/bbl Current	C\$/bbl Current	C\$/bbl Current	C\$/mcf Current	C\$/mcf Real	C\$/mcf Current	C\$/mcf Current	US\$/Mcf Real	US\$/Mcf 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
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%	0.0%	2.0%	2.0%	0.0%	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)
  - 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
	Price Inflation Rate	Cost Inflation Rate	CAD to USD Exchange Rate	WTI at Cushing Oklahoma US\$/bbl Real	WTI at Cushing Oklahoma US\$/bbl Current	Edmonton City Gate C\$/bbl Real	Edmonton City Gate C\$/bbl Current	Lt. Sour 35 Deg. API Cromer, SK C\$/bbl Current	MSO 31 Deg. API Hardisty C\$/bbl Current	Bow River 25 Deg. API Hardisty C\$/bbl Current	WCS 20.5 Deg. API Hardisty C\$/bbl Current	Heavy Oil 12 Deg. API Hardisty C\$/bbl Current	Synbit (AWB) 70% Bitumen 30% Cond. 21 Deg. API C\$/bbl Current	Delivered to Sarnia MSW C\$/bbl Current	Ontario Dawn Reference Point C\$/mcf Current	
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 bitumin (70%) and Condensate (30%) stream equivalent to the Acces Western Blend (AWB).



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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	Alaskan North Slope	California Kern River	Louisiana Heavy Sweet	Louisiana Light Sweet	MARS Blend	Wyoming Sweet	Brent Spot	Gulf Coast Argus Sour Crude Index	Average OPEC Basket	Venezuelan Merely	Nigerian Bonny Light	Arabia UAE Dubai Feteh	Mexico Maya	Russia Urals	Indonesia Minas
		US\$/bbl	US\$/bbl	US\$/bbl	US\$/bbl	US\$/bbl	US\$/bbl	US\$/bbl	US\$/bbl	US\$/bbl	US\$/bbl	US\$/bbl	US\$/bbl	US\$/bbl	US\$/bbl	US\$/bbl	US\$/bbl
		Real	Real	Real	Real	Real	Real	Real	Real	Real	Real	Real	Real	Real	Real	Real	Real
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
a	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
c	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	Permian Waha	San Juan Ignacio	Gulf Coast (onshore)	Louisiana East Texas	Rocky Mtn. Opal	UK NBP	India Domestic Gas	U.S. CBOT Ethanol
				US\$/Mcf	US\$/Mcf	US\$/Mcf	US\$/Mcf	US\$/Mcf	US\$/Mcf	US\$/Mcf	US\$/Mcf	US\$/gal.
		Rate	Rate	Real	Real	Real	Real	Real	Real	Real	Real	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
a	2019	1.550	1.100	\$3.70	\$3.50	\$3.50	\$3.60	\$3.65	\$3.55	\$6.70	\$3.55	\$1.45
c	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 Merely replaced BCF-17 in the OPEC basket March 1, 2009.



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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 U.S. CBOT Ethanol US\$/gal. Escalated
		Average WTI Spot US\$/bbl Escalated	Alaska North Slope US\$/bbl Escalated	California Kern River US\$/bbl Escalated	Louisiana Heavy Sweet US\$/bbl Escalated	Louisiana Light Sweet US\$/bbl Escalated	MARS Blend US\$/bbl Escalated	Wyoming Sweet US\$/bbl Escalated	Brent Spot US\$/bbl Escalated	Gulf Coast Argus Sour Crude Index US\$/bbl Escalated	Average OPEC Basket US\$/bbl Escalated	Venezuelan Meruy US\$/bbl Escalated	Nigerian Bonny Light US\$/bbl Escalated	Arabia UAE Dubai Fetej US\$/bbl Escalated	Mexico Maya US\$/bbl Escalated	Russia Urals US\$/bbl Escalated	Indonesia Minas US\$/bbl Escalated	NYMEX											
																		Henry Hub US\$/Mcf Escalated	Permian Waha US\$/Mcf Escalated	San Juan Ignacio US\$/Mcf Escalated	Gulf Coast (Onshore) US\$/Mcf Escalated	Louisiana East Texas US\$/Mcf Escalated	Rocky Mtn. Opal US\$/Mcf Escalated	UK NBP US\$/Mcf Escalated	U.S. CBOT Ethanol US\$/gal. Escalated				
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		
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		
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		
t	2008	1.852	1.470	\$99.57	\$91.24	\$87.20	\$103.62	\$100.62	\$94.61	\$98.38	\$96.85	N/A	\$94.43	N/A	\$100.24	\$93.48	\$83.23	\$94.51	\$100.25	\$9.86	\$7.44	\$7.20	\$8.48	\$8.89	\$6.52	\$6.14	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		
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		
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		
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		
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		
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		
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		
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		
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		
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		
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		
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		
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		
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		
	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	\$99.80	\$97.85	\$5.00	\$4.75	\$4.75	\$4.85	\$4.90	\$4.80	\$8.50	\$1.70		
	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		
	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		
	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		
	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		
	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		
	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		
	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		
	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		
	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		
	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		
	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		
	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%		

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



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