

**Preliminary Draft - Crude Carbon Intensity Values (OPGEEv1.1\_DraftA)**

<b>Country/State</b>	<b>Crude Name</b>	<b>2010 Baseline CI (g/MJ)<sup>1</sup></b>	<b>Lookup Table CI (g/MJ)<sup>2</sup></b>
	California Crude Average	11.44	
Algeria	Saharan		10.13
Angola	Cabinda		8.41
	Dalia	8.03	8.33
	Gimboa		8.14
	Girassol	8.42	8.74
	Greater Plutonio	7.96	8.23
	Hungo		7.56
	Kissanje		8.14
	Mondo		8.25
	Nemba		8.55
	Pazflor		7.38
Argentina	Canadon Seco	7.59	7.68
	Escalante	7.61	7.70
	Hydra	6.38	6.52
	Medanito		8.23
Australia	Pyrenees	4.39	4.52
	Stybarrow		4.89
	Van Gogh		4.68
	Vincent		3.63
Azerbaijan	Azeri		6.48
Brazil	Albacora Leste	5.09	5.05
	Bijupira-Salema		6.39
	Frade	4.69	4.64
	Jubarte		6.70
	Lula		8.11
	Marlim	6.07	6.11
	Marlim Sul	6.81	6.81
	Ostra	5.10	5.03
	Polvo	4.96	4.88
	Roncador		5.76
	Roncador Heavy		5.46
	Sapinhua		6.81
Cameroon	Lokele	23.80	21.46
Canada	Albian Muskeg River Heavy		19.76
	Albian Heavy Synthetic	19.86	19.76
	Cold Lake	17.53	17.48
	Federated	7.54	8.16

<sup>1</sup> 2010 data used when available to estimate CI values.

<sup>2</sup> 2011 data used when available to estimate CI values.

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	Koch Alberta	7.40	8.01
	Lloydminster		8.43
	Mixed Sweet	7.51	8.14
	Peace River Heavy		19.47
	Peace River Sour		7.99
	Shell Synthetic		20.74
	Suncor Synthetic (all grades)	23.39	24.00
	Surmont		19.33
	Syncrude Synthetic	20.81	20.74
	Wabasca		14.31
Chad	Doba		6.58
Colombia	Cano Limon		7.83
	Castilla	7.42	7.35
	Magdalena		18.97
	Rubiales		6.99
	South Blend		7.63
	Vasconia	7.88	7.76
Congo	Azurite		10.12
	Djeno		10.46
Ecuador	Napo	8.51	8.18
	Oriente	9.88	9.58
Equatorial Guinea	Ceiba		9.41
Iraq	Basra Light	11.67	11.60
Kuwait	Kuwait		8.82
Libya	Amna		12.57
Malaysia	Tapis		9.48
Mexico	Isthmus		8.61
Neutral Zone	Eocene	5.72	5.88
	Khafji		7.26
	Ratawi	7.53	7.74
Nigeria	ABO		7.55
	Agbami		20.35
	Amenam		15.97
	Antan		37.35
	Bonga		5.23
	Bonny	16.93	16.12
	Brass		74.27
	EA		3.65
	Erha		8.27
	Escravos		21.57
	Forcados		18.17
	Okono		26.27
	OKWB		39.75
	Pennington		23.13
	Qua Iboe		15.28

March 4, 2013

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	Usan		15.97
	Yoho		15.28
Oman	Oman	10.95	10.89
Peru	Loreto	7.20	6.75
	Mayna	8.80	8.38
Russia	ESPO	12.07	12.30
	M100		14.61
	Sokol		9.13
	Vityaz		9.27
Saudi Arabia	Arab Extra Light	7.45	7.45
	Arab Light	7.39	7.32
	Arab Medium		6.84
Thailand	Bualuang		3.50
Trinidad	Calypso	5.48	5.84
	Galeota		7.56
UAE	Murban		8.25
	Upper Zakum		7.26
Venezuela	Boscan	8.58	9.03
	Hamaca		22.27
	Hamaca DCO		5.92
	Mesa 30		9.70
	Petrozuata (all synthetic grades)	22.00	22.29
	Zuata (all synthetic grades)	21.98	22.27
US Alaska	ANS	13.67	14.88
US Colorado	Niobrara		3.63
US New Mexico	Four Corners		6.06
US North Dakota	Bakken		9.76
	North Dakota Sweet		9.76
US Texas	WTI		11.59
US Utah	Covenant		2.12
US California <sup>3</sup>	Aliso Canyon	2.08	3.15
	Ant Hill	22.13	29.05
	Antelope Hills	2.89	4.85
	Antelope Hills, North	12.76	17.48
	Arroyo Grande	27.38	28.47
	Asphalto	9.78	13.42
	Bandini	7.48	7.09
	Bardsdale	5.40	4.23
	Barham Ranch	2.79	2.93
	Belgian Anticline	3.78	4.46
	Bellevue	8.62	7.54
	Bellevue, West	8.76	6.26
	Belmont, Offshore	3.22	3.38

<sup>3</sup> CI values estimated for California fields producing more than 10,000 barrels crude oil.

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	Belridge, North	4.54	4.60
	Belridge, South	13.49	14.28
	Beverly Hills	4.25	4.50
	Big Mountain	3.30	3.36
	Blackwells Corner		4.48
	Brea-Olinda	2.99	3.11
	Buena Vista	13.93	7.68
	Cabrillo	2.88	2.98
	Canal	4.13	3.91
	Canfield Ranch	3.67	3.54
	Carneros Creek	2.99	3.17
	Cascade	2.22	2.27
	Casmalia	7.48	9.11
	Castaic Hills	2.92	2.29
	Cat Canyon	3.92	3.93
	Cheviot Hills	3.09	3.20
	Chico-Martinez		3.07
	Cienaga Canyon	4.24	3.87
	Coalinga	25.30	24.34
	Coalinga, East	20.25	20.85
	Coles Levee, N	4.22	4.35
	Coles Levee, S	4.98	5.11
	Coyote, East	5.65	5.97
	Cuyama, South	12.00	10.92
	Cymric	20.17	20.17
	Deer Creek	9.49	10.47
	Del Valle	4.43	4.36
	Devils Den	5.28	4.69
	Edison	8.63	12.82
	El Segundo	3.00	3.21
	Elk Hills	6.40	7.44
	Elwood, S., Offshore	3.99	3.93
	Fruitvale	10.33	3.58
	Greeley	8.25	8.59
	Hasley Canyon	1.99	2.05
	Helm	3.44	3.52
	Holser	3.05	3.04
	Honor Rancho	2.86	4.15
	Huntington Beach	5.14	4.94
	Hyperion	1.73	1.78
	Inglewood	8.87	8.91
	Jacalitos	2.24	2.13
	Jasmin	11.82	11.95
	Kern Front	22.05	22.69
	Kern River	8.61	8.30

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	Kettleman Middle	3.83	4.03
	Kettleman North	5.01	5.77
	Landslide	10.67	11.48
	Las Cienegas	4.64	4.53
	Livermore	2.20	2.30
	Lompoc	31.60	15.00
	Long Beach	5.99	6.20
	Long Beach Airport	3.76	3.50
	L.A. Downtown	4.16	4.33
	Los Angeles, East	8.42	7.28
	Lost Hills	10.90	9.89
	Lost Hills, Northwest	4.42	3.87
	Lynch Canyon	7.21	6.97
	Mahala		2.86
	McDonald Anticline	4.97	4.29
	McKittrick	16.14	18.98
	Midway-Sunset	21.48	22.41
	Monroe Swell		2.02
	Montalvo, West	2.68	2.76
	Montebello	11.16	13.16
	Monument Junction	3.74	3.92
	Mount Poso	12.95	10.65
	Mountain View	4.69	3.54
	Newhall-Potrero	2.82	2.94
	Newport, West	3.82	3.96
	Oak Canyon	3.51	3.56
	Oak Park	2.15	2.38
	Oakridge	2.59	2.45
	Oat Mountain	1.90	2.02
	Ojai	3.47	3.64
	Olive	1.87	1.97
	Orcutt	11.77	12.07
	Oxnard	15.64	11.47
	Paloma	3.82	3.83
	Placerita	29.37	30.71
	Playa Del Rey	6.67	4.26
	Pleito	4.21	2.78
	Poso Creek	23.08	23.38
	Pyramid Hills	2.75	3.11
	Railroad Gap	9.27	8.52
	Raisin City	7.44	8.40
	Ramona	3.45	3.74
	Richfield	3.65	3.86
	Rincon	3.40	3.73
	Rio Bravo	4.96	5.27

March 4, 2013

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	Rio Viejo	2.52	2.61
	Riverdale	3.02	3.25
	Rose	2.12	2.57
	Rosecrans	5.24	5.60
	Rosecrans, South	3.14	3.03
	Rosedale	6.80	7.78
	Rosedale Ranch	8.66	8.15
	Round Mountain	29.18	28.56
	Russell Ranch	6.87	7.79
	Salt Lake	2.57	2.70
	Salt Lake, South	3.74	4.15
	San Ardo	27.39	26.02
	San Miguelito	4.51	5.44
	San Vicente	2.33	2.45
	Sansinena	2.74	2.60
	Santa Clara Avenue	3.34	3.39
	Santa Fe Springs	11.39	10.09
	Santa Maria Valley	4.93	5.54
	Santa Susana	3.19	3.47
	Sargent	4.81	4.49
	Saticoy	3.30	3.47
	Sawtelle	2.85	3.12
	Seal Beach	4.78	5.12
	Semitropic	3.70	3.42
	Sespe	2.99	3.35
	Shafter, North	2.56	2.76
	Shiells Canyon	3.39	3.64
	South Mountain	3.15	3.53
	Stockdale	1.85	1.91
	Strand	2.31	2.97
	Tapia	5.20	16.11
	Tapo Canyon, South	2.78	3.01
	Tejon	5.50	6.48
	Tejon Hills	6.04	6.58
	Tejon, North	5.07	5.31
	Temescal	3.15	3.25
	Ten Section	6.19	6.12
	Timber Canyon	3.47	3.57
	Torrance	4.49	4.33
	Torrey Canyon	2.86	2.88
	Union Avenue	1.80	2.51
	Ventura	4.39	4.25
	Wayside Canyon		1.71
	Wheeler Ridge	4.09	4.36
	White Wolf	1.70	1.76

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	Whittier	2.39	2.47
	Wilmington	6.43	6.71
	Yowlumne	11.15	10.02
	Zaca	7.46	8.20
US Federal OCS	Beta	1.75	1.81
	Carpinteria	2.65	2.71
	Dos Cuadras	3.90	3.96
	Hondo	4.24	4.30
	Hueneme	4.10	4.16
	Pescado	3.50	3.55
	Point Arguello	9.08	9.14
	Point Pedernales	4.81	4.87
	Sacate	2.35	2.41
	Santa Clara	2.43	2.48
	Sockeye	4.97	5.02
Default	TEOR, Mining, Synthetic		20.59
Default	Conventional		10.36