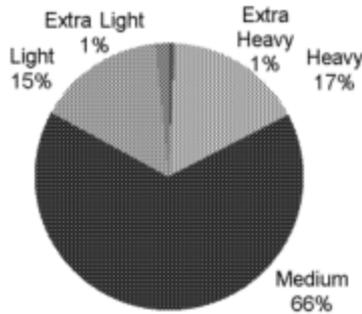


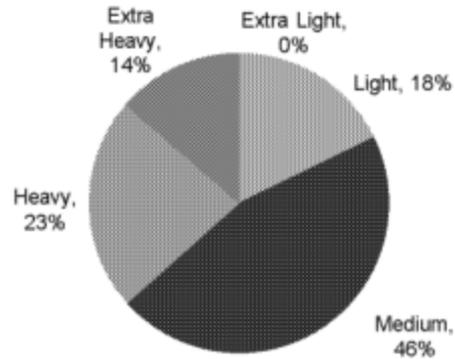


Figure 22: While the current Non-OPEC production mix is ~2/3 medium



Source: Deutsche Bank, Wood Mackenzie, IEA, Heavy barrels are classified as <26 API with extra heavy barrels <11 API. Light barrels are classified as having an API of 38+ with Extra Light > 51

Figure 23: 2014-2020 "growth bbbls" are anticipated to be heavier on increased volumes from the Canadian oil sands and from medium-heavy Brazil volumes



Source: Deutsche Bank, Wood Mackenzie, IEA, Heavy barrels are classified as <26 API with extra heavy barrels <11 API. Light barrels are classified as having an API of 38+ with Extra Light > 51

Figure 24: Top 25 Projects (2014-2017) Incremental Oil Production

Project	Region	Country	Basin	Operator	Project Type	Dev Status	API	Production Start Up Yr	Peak Prod Yr	2014-2017 Incremental Production
Lula-Fracema	Latin America	Brazil	Santos	Petrobras	UDW	Onstream	27	2009	2022	381
Sapinhoa	Latin America	Brazil	Santos	Petrobras	UDW	Onstream	30	2010	2016	171
Xeari	North America	Canada	West Canadian - Alberta	Imperial Oil	Onshore	Onstream	8	2013	2030	136
SeverEnergia	FSU	Russia	West Siberia (Central)	SeverEnergia	Onshore	Onstream	43	2012	2018	120
Kizomba Salt II Res Phase 2	Africa	Angola	lower Congo	ExxonMobil	DW	Under Development	28	2015	2020	108
Papa-Terra	Latin America	Brazil	Campos	Petrobras	DW	Onstream	14	2013	2017	96
Summit Project	North America	Canada	West Canadian - Alberta	ConocoPhillips	Onshore	Onstream	8	2007	2018	95
Horizon Project	North America	Canada	West Canadian - Alberta	Canadian Natural Resources	Onshore	Onstream	34	2008	2019	89
Edvard Grieg	Europe	Norway	Northern North Sea	Lundin Petroleum	Shallow	Under Development	35	2015	2016	89
Srednebotobinskoye	FSU	Russia	Nepa - Botuoba	Tas-Yaryakh	Onshore	Onstream	32	2013	2023	85
Block 15/06NW Hub	Africa	Angola	lower Congo	Eni	DW	Onstream	24	2014	2016	83
Kashagan Contract Area	FSU	Kazakhstan	Pre-caspian	North Caspian Operating Co	Shallow	Onstream	45	2013	2029	83
Foster Creek	North America	Canada	West Canadian - Alberta	Conoco Energy	Onshore	Onstream	11	2001	2029	81
Laggan & Tormore Area	Europe	UK	West Shetland	Total	DW	Under Development	40	2015	2018	81
Roncador	Latin America	Brazil	Campos	Petrobras	UDW	Onstream	24	1999	2018	79
Varudinskoye	FSU	Russia	West Siberia (Central)	Yargo	Onshore	Under Development	42	2015	2016	79
Delta House	North America	United States	East Gulf Coast Tertiary	LLOG Exploration	UDW	Under Development	36	2015	2017	75
Gollat Area	Europe	Norway	West Barents Sea	Eni	DW	Under Development	37	2015	2016	72
Lucius (KC 825)	North America	United States	West Gulf Coast Tertiary	Anadarko	UDW	Onstream	29	2015	2017	69
AOSP	North America	Canada	West Canadian - Alberta	Shell	Onshore	Onstream	34	2003	2021	68
Eidofisk Area II	Europe	Norway	Central Graben	ConocoPhillips	Shallow	Onstream	40	1999	2002	68
Tsimin-Xax	Latin America	Mexico	Salinas Saerte	Pemex	Shallow	Onstream	38	2012	2017	64
Mafameira	Africa	Angola	lower Congo	Chevron	Shallow	Onstream	36	2009	2018	62
Golden Eagle Area	Europe	UK	Moray Firth	Nexen	Shallow	Onstream	38	2014	2017	60
Sunrise	North America	Canada	West Canadian - Alberta	Husky Energy	Onshore	Onstream	8	2015	2025	60

Source: Deutsche Bank, Wood Mackenzie