



**Economics  
& Strategy**

**Jeffrey Rubin**  
(416) 594-7357  
jeff.rubin@cibc.ca

**Avery Shenfeld**  
(416) 594-7356  
avery.shenfeld@cibc.ca

**Benjamin Tal**  
(416) 956-3698  
benjamin.tal@cibc.ca

**Peter Buchanan**  
(416) 594-7354  
peter.buchanan@cibc.ca

**Meny Grauman**  
(416) 956-6527  
meny.grauman@cibc.ca

**Krishen Rangasamy**  
(416) 956-3219  
krishen.rangasamy@cibc.ca

***“From Kazakhstan to Nigeria’s Delta region, protracted delays in some of the world’s largest energy mega-projects will have huge impacts on actual supply growth over the next five years.”***

## Delays Will Tighten Global Oil Markets

by Jeff Rubin and Peter Buchanan

Despite healthy scheduled increases in world oil production, widespread project delays and soaring oil consumption in many oil-producing countries point to a widening demand-supply gap that will require further price rationing in world crude markets. From Kazakhstan to Nigeria’s Delta region, protracted delays in some of the world’s largest energy mega-projects will have huge impacts on actual supply growth over the next five years.

The delays will subtract over 5 million barrels per day from global production growth over the 2008-2012 period. Coupled with accelerating depletion at existing fields, where output is dropping at an annual rate close to 4 million barrels per day, actual supply is likely to come in as much as 8 million barrels per day below International Energy Agency (IEA) and US Department of Energy estimates, with production apparently peaking at just over 88 million barrels per day in 2011.

The implications for demand growth and prices are significant. On a global basis, only less than 1% annual demand growth can be accommodated by available net supply gains. At the same time demand will be highly skewed towards oil-producing countries themselves and to the rapidly developing economies, leaving the OECD markets to bear much of the coming supply crunch through significantly higher world oil prices.

Because so much of the growth in global oil demand will occur in countries that provide

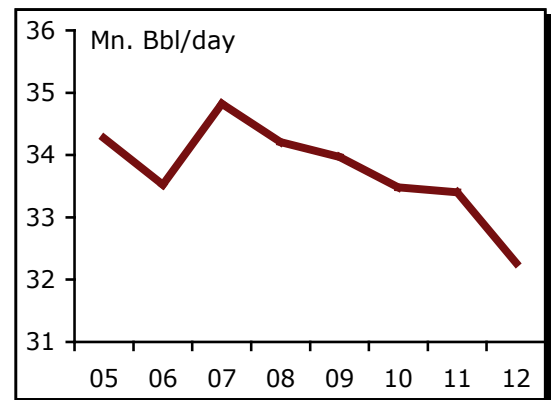
massive fuel subsidies for their own domestic consumers, prices will have to rise that much more in countries where energy markets are allowed to work.

Consumption in OPEC, together with the oil-producing Russian and Mexican economies, will rise from nearly 13 million barrels per day to over 16 million barrels per day by 2012. That three million barrel-per-day increase in domestic oil consumption will have first call on much of the new available supply, since most of the new supply will come from OPEC itself. In total, domestic consumption gains in this region will take virtually all of our projected increase in net world supply over the next half-decade.

For OPEC that implies as much as a half-million barrel-per-day decrease in exports between now and 2012—a development

Chart 1

**Exports:  
OPEC, Russia and Mexico (2005-2012)**



<http://research.cibcwm.com/res/Eco/EcoResearch.html>

that will deny much of the world the oil supply growth that it currently expects. Little, if any, gain can be expected in Russian exports beyond 2010, with domestic consumption accounting for all of the modest production gains expected there. Meanwhile Mexico's exports, of which over 90% go to the US market, are likely to collapse within the next five years (Chart 1).

In short, total global production gains will hugely overstate actual supply conditions because few of those precious new barrels will ever see the light of world export markets. Excluding the fast-rising and generally highly subsidized consumption of major oil-producing countries themselves, world oil supplies will be effectively flat. That comes amidst the seemingly insatiable energy needs of rapidly industrializing economies led by China, whose demand appears to be much more income- than price-levered. As such, these countries are likely to outbid more price-sensitive markets for increasingly scarce new oil supply. That leaves the burden of adjustment to that part of the world oil market that is the most price sensitive—the OECD.

### The Supply Picture: Major Delays on Many Mega-Projects

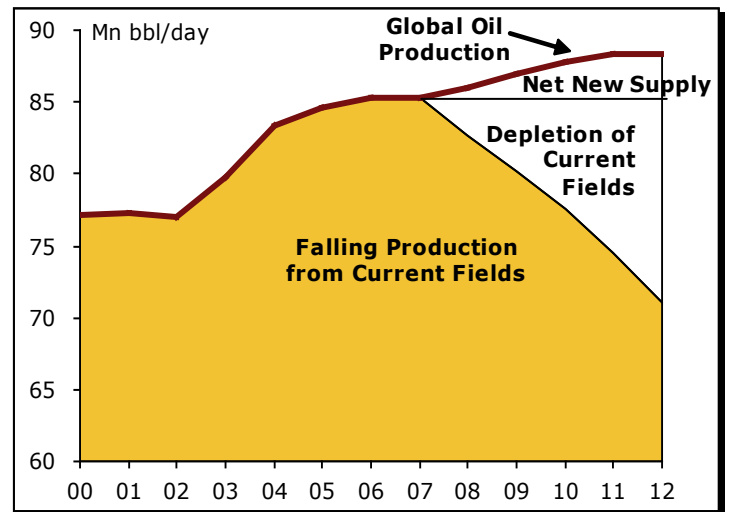
On the surface, 2008 looks like a big year for oil supply. So does, for that matter, the next half-decade. According to the IEA, global production will climb to as much as 96 million barrels per day by 2012. But those projections ignore two fundamental forces that have, in recent years, brought global production to a virtual standstill.

The first is depletion. You have to run faster to stand still. Depletion from existing fields has accelerated to over 4%, a rate that currently cuts nearly 4 million barrels per day out of each year's production (Chart 2). The recent over-1%-point acceleration in global depletion is at least, in part, related to the growing importance of offshore, and in particular, deepwater fields, whose depletion rates are twice that of conventional fields. Cliff-like depletion rates have already been in evidence in the North Sea and now the huge Cantarell field in Mexico. Since 2000, offshore fields have been the single-largest source of new supply growth.

As their weight in total production increases, future depletion rates will continue to rise. Even holding the current depletion rate constant over the next five years, we must produce nearly 20 million barrels per day of

Chart 2

### Depletion Adds to Needed Capacity Growth



new oil just to offset what will be lost through depletion during this period.

The second fundamental force blowing up supply forecasts are the huge project delays and massive cost overruns associated with many of the world's largest new oil mega-projects. Heavy reliance on increasingly high cost and technically challenging fields like the Kashagan project in Kazakhstan, Sakhalin II and Canadian and Venezuelan oil sands have left world supply growth vulnerable to a seemingly never-ending series of project delays. In many cases, soaring development costs have resulted in complex and often tense re-negotiations of royalty agreements with host countries. Some have even led to either a temporary or indefinite suspension of operating licenses.

Of course, stagnant conventional world oil production underlies the recent problems associated with harvesting unconventional supply. Virtually all of the increases in global oil production have occurred from deepwater fields or oil sands, with conventional production seemingly stuck at 2005 levels of 67 million barrels per day (Chart 3).

Perhaps even more disturbing is the fact that world oil production has actually not grown at all over the last two years, even with the gain reported by the US Department of Energy in the production of natural gas liquids, a component of total supply. While natural gas liquids, like butane and propane, are valuable hydrocarbons in their own right, they are not a viable source for gasoline, which is what is driving world oil demand these days.

Chart 3

**Conventional Oil Production Has Not Grown Since 2004**

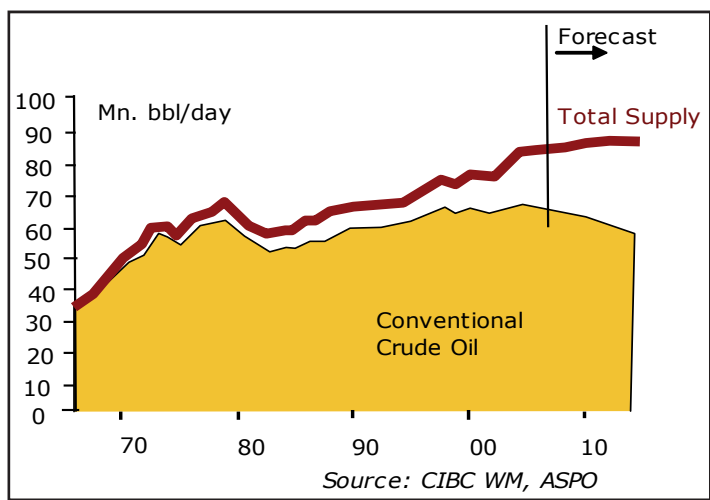
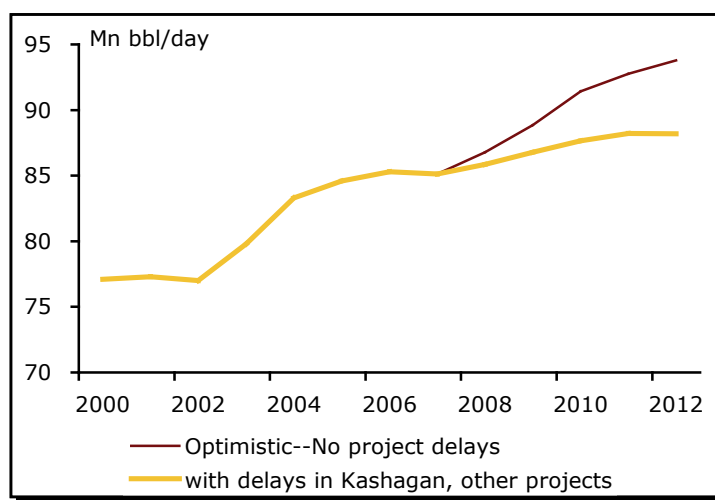


Chart 4

**Scheduled vs Probable New Global Production**



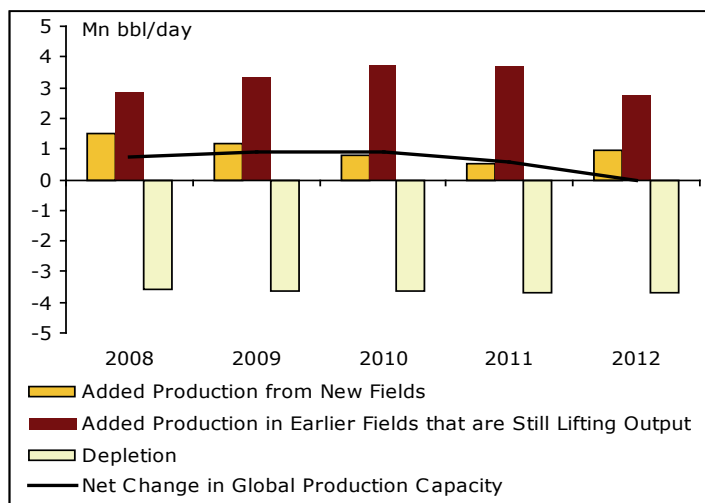
Our review of nearly 200 new oil projects (see APPENDIX), slated to start oil flow over the next five years, indicates that scheduled production timelines are far too optimistic, with project delays the norm, not the exception among the group. Production delays in Kashagan, the world’s largest oil project, will take as much as 200,000 barrels from scheduled production increases by 2010 and as much as half a million barrels per day by 2012. Those losses are followed by Nigeria’s Bonga (North and Aparo) and Iran’s Azar 2, two other massive energy projects which now face much later start-up dates. Delays to oil sands projects in Venezuela and Canada will shave over 700,000 barrels per day from projected 2012 production capacity relative to earlier expectations.

This year some 4.3 million barrels per day will come into production—1.5 million barrels per day from new start-ups and 2.8 million barrels per day from scheduled production increases in already operating fields (Table 1). But that’s little over 700,000 barrels per day above the nearly 3.6 million barrels per day that will be lost through annual depletion. Similarly, seemingly large supply gains in 2009 and 2010—in the neighbourhood of 4 million barrels per day—shrink to net gains of less than 1 million barrels per day after depletion, and even less in 2011 and 2012. The result is net global production levels that appear to plateau at just over 88 million barrels per day by 2011.

These delays alone will cost global supply 1 million barrels per day by 2010, growing to 1.6 million barrels by 2012. Add in similar delays found widely over other large oil projects and collectively by 2012 new field production will be over 5 million barrels lower than official production schedules suggest (Chart 4).

Chart 5

**Supply Increases, Depletion and Net Supply by Year 2008-2012**



A more realistic assessment of new supply shows a very different picture than the “official production estimates” (Chart 5). Net of depletion from existing fields, supply will grow by only about 0.7% per year to just over 88 million barrels per day by 2011, some 8 million barrels short of the IEA estimates that take start-up and future production dates at “face value”.

Table 1

**World Oil Production\*, Depletion and New Field Capacity  
2008-2012 (millions of barrels per day)**

		2008	2009	2010	2011	2012
	<i>Prior Year's World Oil Production</i>	85.30	86.06	86.98	87.85	88.41
<b>ADD:</b>	<b>Production of fields started this year</b>	<b>1.49</b>	<b>1.15</b>	<b>0.80</b>	<b>0.54</b>	<b>0.96</b>
<b>ADD:</b>	<b>Increased production from existing fields</b>	<b>2.84</b>	<b>3.38</b>	<b>3.73</b>	<b>3.70</b>	<b>2.75</b>
<b>MINUS:</b>	<b>Depletion</b>	3.58	3.61	3.65	3.69	3.71
<b>EQUALS:</b>	<b>Current World Oil Production</b>	<b>86.06</b>	<b>86.98</b>	<b>87.85</b>	<b>88.41</b>	<b>88.40</b>

**Source: Oil Megaprojects Task Force/The Oil Drum, company, industry & govt. reports. Field start-up dates have been adjusted by CIBC WM where appropriate to reflect expected delays due to political, technological and other factors.**

\* crude oil, condensate and natural gas liquids

**The Demand Picture: Most of Future Price Rationing Will Occur in the OECD**

With global inventories already low, demand growth must broadly equal supply growth over a five-year horizon. While that must obviously hold at the aggregate level, demand is likely to be highly skewed towards certain regions due to the segmentation of global oil markets into three distinct types, each with very different market dynamics.

The OECD, the largest market segment today, is not likely to be so within the next five years. This is the most price sensitive and mature market for oil where consumers pay full world oil prices. OECD oil consumption, which has already fallen over the last two years, will decline by almost 4 million barrels per day over the next five years (Chart 6) in response to steadily rising oil prices. With

crude prices rising to US\$150/bbl in 2012 US gasoline prices will rise as high as US\$4.50/gallon. Since almost 50% of US crude consumption is gasoline, we expect soaring gasoline prices to chop off almost 2 million barrels per day out of daily US crude consumption by 2012.

A second market segment is China and the developing world where much of the world's most energy-intensive production is migrating to and where car ownership rates are exploding due to the onslaught of first time buyers. Demand for energy in these countries tends to be far more income sensitive than price sensitive in sharp contrast to energy demand in the OECD which is much more price sensitive.

Finally, a third segment, and the most rapidly growing part of global oil demand is the soaring rates of own consumption found in most of the world's largest oil-producing countries themselves. OPEC together with non-cartel producers Russia and Mexico account for over 60% of world oil production. But what increasingly bears watching is not the increase in their production levels, but the rate of growth of their own internal consumption. Oil demand is exploding in these countries, typically growing at eight to ten times the pace in the rest of the world over the last five years.

**Soaring Consumption in Major Oil-Producing Countries Themselves**

To some extent strong domestic oil demand reflects the income boost that high oil prices have given their petro-based economies. Soaring rates of car ownership in countries like Russia and China have boosted fuel demand in both countries (Chart 7).

Chart 6

**Rising Prices Will Hit OECD Demand Hardest**

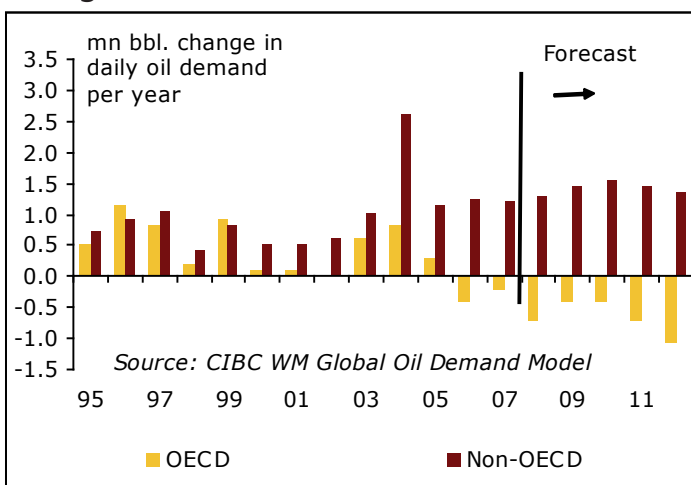


Chart 7

**Soaring Rates of Car Ownership in Russia and China**

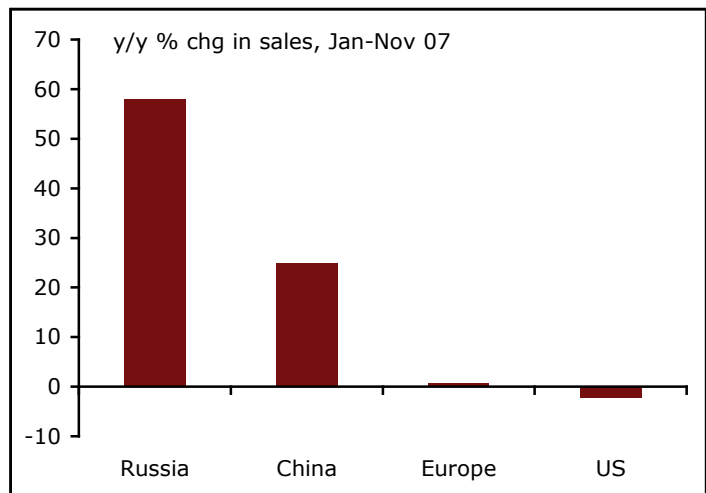
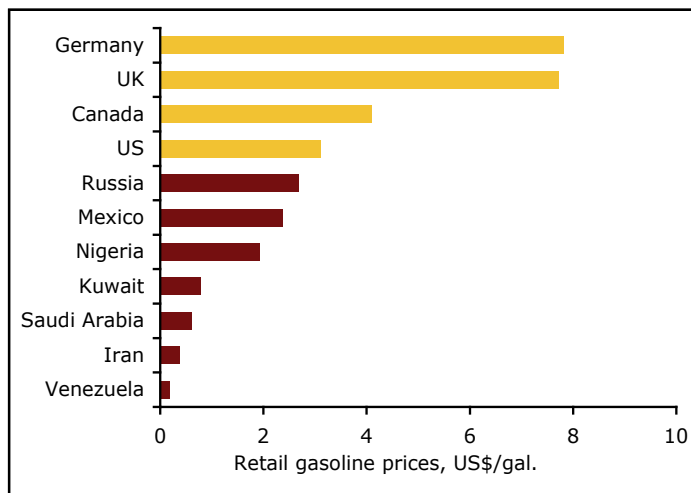


Chart 8

**Gasoline Prices Around the World**



For example, gasoline, a key driver of rising oil use, is growing at over 6% in both countries. But an even more important factor has been massive price subsidization in OPEC countries which has spurred extraordinary near-double-digit growth in oil demand. Not only is there virtually no price elasticity between OPEC’s own oil consumption and world oil prices but paradoxically, domestic consumption of oil in those countries may actually increase with rising world oil prices because higher crude prices boost incomes, which in turn, further boosts demand for massively subsidized domestic gasoline.

Oil consumption last year in Saudi Arabia grew by almost 10%, while its neighbour Kuwait has sported 6% annual growth in its own oil consumption for over the last half-decade. Consumption growth in Iran isn’t far behind. Supercharged demand growth in many OPEC countries can be traced to gasoline prices as low as 20 cents a gallon in Venezuela and 40-60 cents per gallon in Saudi and Iran (Chart 8). In virtually all OPEC countries, the public has come to expect and demand massive price subsidies, leaving domestic governments little option but to comply. Initial attempts to raise prices last summer in Iran were met with violent protests, forcing the government to impose gasoline rationing instead.

This market is not only one of the fastest growing oil markets anywhere in the world but it is also one of the largest markets. Collectively, OPEC together with Russia and Mexico consumed nearly 13 million barrels per day

last year, some 700,000 barrels more per day than all of Western Europe and over 60% more than China consumed. By 2012, we estimate that OPEC together with Russia and Mexico will consume 16 million barrels per day, with the 3 million barrel-per-day increase over the next 5 years taking up the lion’s share of all new global production capacity net of depletion.

Soaring rates of growth in domestic oil consumption will squeeze export capacity in many major oil-producing countries. Individually, Mexico is likely to see the largest decline, with exports virtually collapsing to as little as several hundred thousand barrels per day from a current level of just over 1.5 million barrels per day. The US market will bear most of this adjustment. But even OPEC will see its exports decline, and significantly if newly joined Angola is excluded from the group. Excluding Angola, OPEC oil exports are likely to decline by as much as 1.4 million barrels per day. And while Russian production is expected to grow very modestly over the next five years, all of those production gains will be gobbled up by domestic demand growth.

With virtually no growth in world exports, still-surging crude demand from developing countries will have to come at the expense of OECD consumption. Since crude demand in countries like China and India is far more *income-elastic* than *price-elastic*, these countries are likely to outbid OECD markets for increasingly scarce global supply.

Furthermore, many of those energy-thirsty developing countries will need to depend more and more on world markets. For example, China, the world's second largest oil-consuming country with consumption already totalling 7 million barrels per day is likely to need to import as much as 70% of its oil needs by 2012 compared to about 50% today.

It is in the world's still-largest oil market—the OECD—that most price rationing will ultimately take place. Oil consumption, having already fallen for the last two years is likely to now fall steadily over the next half-decade in response to soaring world oil prices.

We expect that OECD consumption will fall by 4 million barrels per day between now and the end of 2012 in response to a further 50% rise in world oil prices. A rise in world oil prices to the US\$150/bbl range (Table 3) over the next half-decade should incent a major decarbonization of those economies. Indeed by 2012, oil consumption outside of the OECD will exceed consumption within the OECD (excluding Mexico), a development that will pose new challenges in the global task of managing carbon emissions.

Table 2

### Higher Oil Prices Needed to Ration Fast-Rising Global Demand

Mn barrels/day	2007	2008	2009	2010	2011	2012
<b>World Oil Demand</b>	<b>85.7</b>	<b>86.1</b>	<b>87.0</b>	<b>87.9</b>	<b>88.4</b>	<b>88.4</b>
- % ch.	1.2	0.5	1.0	1.1	0.6	0.0
OECD <sup>1</sup>	47.2	46.4	46.0	45.6	44.8	43.6
- % ch.	-0.3	-1.6	-0.9	-0.9	-1.7	-2.6
OPEC + Mexico + Russia	12.8	13.4	14.1	14.8	15.6	16.4
- % ch.	4.9	5.0	5.0	5.1	5.1	5.1
China + Other Developing Countries	25.8	26.3	26.9	27.5	28.0	28.4
- % ch.	2.3	2.0	2.3	2.4	1.9	1.4
<b>World Oil Supply</b>	<b>85.3</b>	<b>86.1</b>	<b>87.0</b>	<b>87.9</b>	<b>88.4</b>	<b>88.4</b>
West Texas Crude (\$/bbl.)	72	95	105	115	130	150

<sup>1</sup> Excluding Mexico



## APPENDIX

## 80 Largest Oil Projects, Grouped Based on Expected First Oil Flow 2008-2012 (thousands of barrels per day)

New 2008 Fields		Projected Average Daily Production*				
Country	Project Name	2008	2009	2010	2011	2012
Saudi Arabia	Khursaniyah/Abu Hadriya/Fadhili	395	790	778	767	755
Kazakhstan	Tengiz Phase I	71	143	285	275	265
Azerbaijan	ACG Phase III	65	130	260	251	242
USA	Thunder Horse	63	125	250	241	233
Saudi Arabia	Shaybah Expansion	63	125	250	246	243
Canada	Horizon Oil Sands Project phase I	60	120	240	240	240
Nigeria	Agbami	58	115	230	222	214
Russia	Rusco JV (ConocoPhillips + Lukoil)	50	100	200	193	186
Brazil	Marlim Leste P-53	45	90	180	174	168
Brazil	Marlim Sul Mod 2 P-51	45	90	180	174	168
China	Peng Lai Phase II	41	83	165	159	154
Kazakhstan	Dunga	38	75	150	145	140
Canada	Firebag, Steepbank	35	70	140	140	140
Oman	Harweel Ph 2	30	60	59	58	57
Mexico	Ixtal Manik	28	53	51	49	48
Russia	Verkhnechonsk	25	50	100	150	200
<b>Total Major 2008 Fields</b>		<b>1,110</b>	<b>2,218</b>	<b>3,518</b>	<b>3,484</b>	<b>3,452</b>
<b>Other 2008 Fields</b>		<b>385</b>	<b>768</b>	<b>1,298</b>	<b>1,347</b>	<b>1,346</b>
<b>All Fields Starting Production in 2008</b>		<b>1,495</b>	<b>2,986</b>	<b>4,816</b>	<b>4,831</b>	<b>4,798</b>
New 2009 Fields		Projected Average Daily Production*				
Country	Project Name	2008	2009	2010	2011	2012
Saudi Arabia	Khurais		318	635	1,270	1,251
Saudi Arabia	Hawiyah		80	159	318	313
Angola	Block 31 S-Ceres/Palas/Juno		63	125	250	241
Russia	Vankor		58	117	233	225
UAE	Upper Zakum		50	100	200	197
UK	Rosebank/Lochnagar		38	75	150	145
India	Mangala Area		25	50	100	150
Qatar	Ras Laffan Condensate Refinery		35	70	140	138
Oman	Mukhaizna		23	47	93	140
Nigeria	Bosi, Etim, Asasa		34	68	135	130
UAE	OGD 3; AGD 3		34	68	135	133
Russia	Prirazlomnoye		16	33	65	98
USA	Tahiti		31	63	125	121
Iran	Azadegan Phase I (south)		13	25	50	75
Kazakhstan	Karachaganak Phase III		20	40	80	120
Nigeria	EA expansion		29	58	115	111
<b>Total Major 2009 Fields</b>			<b>865</b>	<b>1,730</b>	<b>3,459</b>	<b>3,587</b>
<b>Other 2009 Fields</b>			<b>290</b>	<b>580</b>	<b>1,160</b>	<b>1,132</b>
<b>All Fields Starting Production in 2009</b>			<b>1,155</b>	<b>2,310</b>	<b>4,619</b>	<b>4,719</b>
New 2010 Fields		Projected Average Daily Production*				
Country	Project Name	2008	2009	2010	2011	2012
Mexico	Antonio J Bermudez			81	155	150
Venezuela	San Cristobal			67	133	267
Russia	Uvatskoye			50	100	200
Azerbaijan	Inam / Yamalah			50	100	200
Kuwait	GC24 Rebuild			40	80	160
Norway	Valhall redevelopment			30	60	120
Algeria	Block 208 - El Merk			28	55	110
Mexico	Bellota Chinchorro			27	51	49
1/9/2008	Perdido, Great White, Tobago, Silvertip			25	50	100
Brazil	Albacora Extension			25	50	100
Canada	Jackpine Mine (Phase 1)			25	50	100
Angola	Landana-Tombua			25	50	100
Iraq	Rafidain			25	50	100
Malaysia	Gumusut-Kakap			25	50	100
Australia	Pyrenees (Ravensworth, Crosby, Stickle, Harrison)			24	48	96
USA	Chinook, Cascade			20	40	80
<b>Total Major 2010 Fields</b>				<b>565</b>	<b>1,123</b>	<b>2,032</b>
<b>Other 2010 Fields</b>				<b>238</b>	<b>475</b>	<b>950</b>
<b>All Fields Starting Production in 2010</b>				<b>803</b>	<b>1,598</b>	<b>2,982</b>

\* crude oil, condensate and natural gas liquids

## APPENDIX (...continued)

**80 Largest Oil Projects, Grouped Based on Expected First Oil Flow  
2008-2012 (thousands of barrels per day)**

<b>New 2011 Fields</b>		<b>Projected Average Daily Production*</b>				
Country	Project Name	2008	2009	2010	2011	2012
Brazil	Tupi				50	100
Canada	Sunrise				50	100
Nigeria	Akpo				45	90
Brazil	Jubarte Ph II (P57)				45	90
Brazil	Roncador module 3 (P55)				45	90
Mexico	Jujo Tecominoacan				44	85
Angola	CLOV (Cravo/Lirio/Orquidea/Violeta)				38	75
Brazil	Parque das Conchas (BC10 - Ostra; Abalone; Nautilus; Argonauta)				25	50
Brazil	Marlim Sul Module 3 (P-56)				25	50
Algeria	Rhourde El Baguel				25	50
Russia	V Filanovsky				24	48
Iraq	Tawke				23	45
Norway	Skarv Idun				21	43
Qatar	Qatargas 2 Train 5				20	40
Qatar	Qatargas 3 Train 6				19	38
Qatar	Pearl GTL Phase I				18	35
<b>Total Major 2011 Fields</b>					<b>515</b>	<b>1,027</b>
<b>Other 2011 Fields</b>					<b>29</b>	<b>58</b>
<b>All Fields Starting Production in 2011</b>					<b>544</b>	<b>1,085</b>

<b>New 2012 Fields</b>		<b>Projected Average Daily Production*</b>				
Country	Project Name	2008	2009	2010	2011	2012
Saudi Arabia	Manifa					150
China	Jidong Nanpu (Bohai Bay)					125
Canada	Voyageur South					63
Venezuela	Carabobo I					33
Canada	Kearl Mine Phase 1					50
Brazil	Cachalote; Baleia Franca; Baleia Ana					38
Brazil	Roncador Module 4					38
Nigeria	Bonga SW/Aparo					38
Angola	Block 31 NE PSVM (Plutao; Saturno; Venus; Marte)					38
Canada	Fort Hills Phase I					35
Qatar	Al Shaheen Expansion					70
Canada	Horizon Oil Sands Project phase II					33
Angola	Kizomba D Satellites					31
USA	Big Foot					30
Canada	Borealis					25
Brazil	Pappa Terra Mod 1 + 2					25
<b>Total Major 2012 Fields</b>					<b>820</b>	<b>138</b>
<b>Other 2012 Fields</b>					<b>138</b>	<b>138</b>
<b>All Fields Starting Production in 2012</b>					<b>959</b>	<b>959</b>

**Source: Oil Megaprojects Task Force/The Oil Drum, company, industry & govt. reports. Start dates have been adjusted by CIBC WM where appropriate to reflect expected delays due to political, technological and other factors.**

\* crude oil, condensate and natural gas liquids

**Conflicts of Interest:** CIBC World Markets' analysts and economists are compensated from revenues generated by various CIBC World Markets businesses, including CIBC World Markets' Investment Banking Department. CIBC World Markets may have a long or short position or deal as principal in the securities discussed herein, related securities or in options, futures or other derivative instruments based thereon. The reader should not rely solely on this report in evaluating whether or not to buy or sell the securities of the subject company.

**Legal Matters:** This report is issued and approved for distribution by (i) in Canada by CIBC World Markets Inc., a member of the IDA and CIPF, (ii) in the UK, CIBC World Markets plc, which is regulated by the FSA, and (iii) in Australia, CIBC World Markets Australia Limited, a member of the Australian Stock Exchange and regulated by the ASIC (collectively, "CIBC World Markets"). This report is distributed in the United States by CIBC World Markets Inc. and has not been reviewed or approved by CIBC World Markets Corp., a member of the New York Stock Exchange ("NYSE"), NASD and SIPC. This report is intended for distribution in the United States only to Major Institutional Investors (as such term is defined in SEC 15a-6 and Section 15 of the Securities Exchange Act of 1934, as amended) and is not intended for the use of any person or entity that is not a major institutional investor. Major Institutional Investors receiving this report should effect transactions in securities discussed in the report through CIBC World Markets Corp. This report is provided, for informational purposes only, to institutional investor and retail clients of CIBC World Markets in Canada, and does not constitute an offer or solicitation to buy or sell any securities discussed herein in any jurisdiction where such offer or solicitation would be prohibited. This document and any of the products and information contained herein are not intended for the use of private investors in the United Kingdom. Such investors will not be able to enter into agreements or purchase products mentioned herein from CIBC World Markets plc. The comments and views expressed in this document are meant for the general interests of clients of CIBC World Markets Australia Limited.

This report does not take into account the investment objectives, financial situation or specific needs of any particular client of CIBC World Markets Inc. Before making an investment decision on the basis of any information contained in this report, the recipient should consider whether such information is appropriate given the recipient's particular investment needs, objectives and financial circumstances. CIBC World Markets Inc. suggests that, prior to acting on any information contained herein, you contact one of our client advisers in your jurisdiction to discuss your particular circumstances. Since the levels and bases of taxation can change, any reference in this report to the impact of taxation should not be construed as offering tax advice; as with any transaction having potential tax implications, clients should consult with their own tax advisors. Past performance is not a guarantee of future results.

The information and any statistical data contained herein were obtained from sources that we believe to be reliable, but we do not represent that they are accurate or complete, and they should not be relied upon as such. All estimates and opinions expressed herein constitute judgements as of the date of this report and are subject to change without notice.

Although each company issuing this report is a wholly owned subsidiary of Canadian Imperial Bank of Commerce ("CIBC"), each is solely responsible for its contractual obligations and commitments, and any securities products offered or recommended to or purchased or sold in any client accounts (i) will not be insured by the Federal Deposit Insurance Corporation ("FDIC"), the Canada Deposit Insurance Corporation or other similar deposit insurance, (ii) will not be deposits or other obligations of CIBC, (iii) will not be endorsed or guaranteed by CIBC, and (iv) will be subject to investment risks, including possible loss of the principal invested. The CIBC trademark is used under license.

(c) 2008 CIBC World Markets Inc. All rights reserved. Unauthorized use, distribution, duplication or disclosure without the prior written permission of CIBC World Markets Inc. is prohibited by law and may result in prosecution.