# 2013 Oil Market Outlook

## – Lower average price in 2013

- Brent forecast maintained at 107 $/b for 2013
- Global oil fundamentals looking weak (decreasing call on OPEC)
- But geopolitical risk and increased liquidity from central banks will continue to support Brent above 100 $/b

November 29 - 2012 - Torbjørn Kjus

# Content



DNB

MARKETS

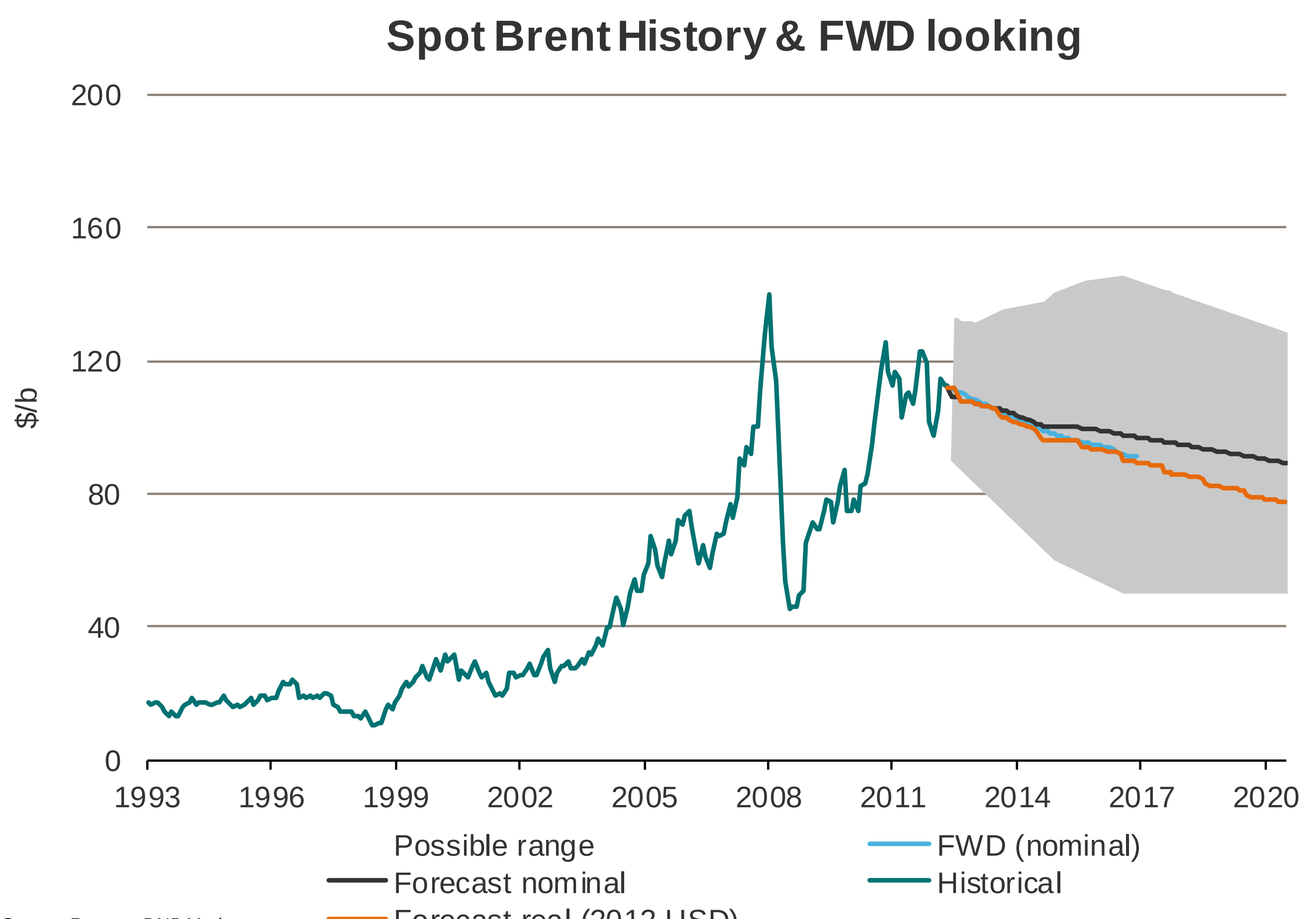


Torbjørn Kjus – torbjorn.kjus@dnb.no – Telephone: +47 22 01 78 23

# Long Term Oil Price Forecast

(The forecast is for the average of the rolling 1st month ICE Brent future contract)

| | Historical Nominal $/b | Historical Real (2011) $/b |
|---|---|---|
| **2001** | 24.9 | 31.1 |
| **2002** | 25.1 | 31.3 |
| **2003** | 28.5 | 35.3 |
| **2004** | 38.1 | 46.6 |
| **2005** | 55.0 | 62.8 |
| **2006** | 66.2 | 72.7 |
| **2007** | 72.7 | 78.5 |
| **2008** | 98.7 | 101.6 |
| **2009** | 62.6 | 64.7 |
| **2010** | 80.4 | 82.0 |
| **2011** | 110.8 | 110.8 |
| | **Forecast Nominal $/b** | **Forecast Real (2012) $/b** |
| **Q2-12** | 109 | 109 |
| **Q3-12** | 110 | 110 |
| **Q4-12** | 109 | 109 |
| **2012** | 111 | 111 |
| **2013** | 107 | 107 |
| **2014** | 102 | 100 |
| **2015** | 100 | 96 |
| **2016** | 98 | 92 |
| **2017** | 96 | 89 |
| **2018** | 94 | 85 |
| **2019** | 92 | 81 |
| **2020** | 90 | 78 |




Source: Reuters, DNB Markets

DNB

MARKETS



Torbjørn Kjus – torbjorn.kjus@dnb.no – Telephone: +47 22 01 78 23

# 2013 Oil Price Scorecard – Brent Forecast Maintained @ 107 $/b

| **2013 Oil Price Scorecard** | **Comments** | **Oil Price** | **Weight** |
|---|---|---|---|
| **Overall Outlook** | There will be powerful forces working in different directions for the oil market in 2013. Geopolitics and increased liquidity poured into the system from central banks should pose positive elements for oil prices but fundamentally the market will not look strong. After the change of the millennium we have seen two incidents of a decreasing 'Call on OPEC' (2000-02 and 2008-09). Oil prices fell back in both cases. Since we believe the 'Call on OPEC' will decrease significantly in 2013 the average oil price should be falling compared with 2012. We do however still believe it will trade above 100 $/b, supported by the mentioned geopolitical and liquidity factors. | **Average price 107 $/b** | |
| **Fundamentals** | | | |
| Global Fundamental Balance | We forecast 'Call on OPEC' will decrease by 0.7 million b/d on a combination of strong growth in non-OPEC supply (particularly from North-America) and weaker net oil demand growth. | **BEARISH** | **HIGH** |
| Crude vs Product Balance (Margins) | More refinery capacity will be added next year than net growth in global oil demand. IEA estimate that more than 4 million b/d of capacity will be added in 2013 if we include desulphurization capacity, upgrading units and CDU expansions. Most of the additions will be in Asia, the Middle East and Former Soviet Union (FSU). | BEARISH | MEDIUM |
| OECD Stock levels | OECD stock levels are high when measured in days of demand coverage. Unless OPEC cuts back output next year, OECD stocks will continue to grow. | BEARISH | LOW |
| OPEC Spare Capacity | Since we believe there will be a need for OPEC to cut production next year and since we believe Saudi Arabia will target oil prices around 100 $/b, the implication of lower output from OPEC is higher spare capacity. In addition the production capacity is expected to grow in Iraq (Rumaila/West Qurna/Majnoon), Libya (Elephant) and Angola (Kizomba/Block 31). | BEARISH | MEDIUM |
| US Oil Statistics - Fundamentals | US oil demand is expected to fall 0.1 million b/d next year while liquids supply is expected to grow 0.7 million b/d on the back of the new shale liquids industry. This means US crude imports should continue to decrease, hence making more crude oil available for other consumers. | BEARISH | MEDIUM |
| Global Demand Growth | We believe global oil demand growth will be weak also in 2013. A high oil burden normally provides less "bang for the buck" with respect to the intensity factor vs economic growth. Instead of growing 0.5 percent for every percent growth in global GDP, we believe 2013, just as 2012, will offer significantly lower oil demand growth per unit GDP-growth than the long-term average of 0.5. Chinese oil demand growth has been weak so far in 2012 and with expectations of weaker economic growth next year there is probably no reason to expect trend-line growth of Chinese oil demand in 2013 either. We think net global oil demand will grow only 0.7% in 2013 which is very similar to 2012. Chinese oil demand is expected to grow 366 kbd next year vs 271 kbd in 2012. This is meaningfully weaker than the ten-year average growth of 500 kbd. European oil demand will continue to fall, next year by 0.4 million b/d, slightly less than in 2012. OECD Asia oil demand growth, which has been so strong in 2012 (+358 kbd ytd) due to oil used in the power sector in Japan, is expected to fall to about zero in 2013. That could even prove to be optimistic as the 2012-numbers have been inflated by all the nuclear outages (and if many of these reactors return to service next year, oil demand in Japan will start falling). Total OECD demand is expected to fall 0.5 million b/d next year while total non-OECD demand is expected to rise by 1.2 million b/d, providing net global oil demand growth of 0.6 million b/d. We still forecast decent demand growth in Asia, Latin America and most of the Middle-East, but the expected weakness in OECD offsets much of the demand growth in non-OECD. | BEARISH | MEDIUM |
| OPEC Supply | We think OPEC will reduce its production meaningfully in 2013, both since Saudi Arabia will cut its output to balance the market but also since the Iranian conflict is not set to be resolved and hence Iranian capacity is not set to be fully restored in 2013. | BULLISH | LOW |
| Non-OPEC Supply | Non-OPEC production including biofuels is expected to increase by 1.1 million b/d in 2013. 70% of this growth is expected to come in North-America, due to the shale liquids revolution. Key field contributors will continue to be Bakken and Eagle Ford. We do however expect contribution to growth also from other non-OPEC countries like Kazakhstan (Kashagan/Tengiz), Russia (Vankor), Brazil (Aruana/Roncador/Guara), Colombia (Castilla), Malaysia (Gumusut) and Canada (Kearl Lake). OPEC NGLs production is expected to increase by 0.3 million b/d. This is normally added to the non-OPEC supply category since it is not part of OPEC's production target system. This means total non-OPEC production including OPEC NGLs is expected to increase by 1.4 million b/d. We do not expect unplanned supply outages caused by accidents, strikes, security issues, technical problems and weather to be as high in 2013 as we have seen in 2012. The largest part of the unplanned outages in 2012 was due to reduced production in Sudan/South-Sudan, Syria, Yemen and the UK (the Buzzard field). The largest reduction in outage is expected from South-Sudan which we estimate will see a gradual return during 2013 starting in February to reach pre-conflict level if above 300 kbd by the end of next year. | BEARISH | MEDIUM |
| **Political Risk** | | | |
| Iraq, Iran, Nigeria, Venezuela, US, Russia, Israel, MENA, etc | The largest risk is connected to Iran's nuclear program and the fact that EU has decided an oil embargo vs the country and US has imposed financial sanctions. Officials in Iran have threatened to close the strait of Hormuz where 35-40% of the worlds traded oil passes through. We do not think Iran will choose to close the strait. It is rational to threat to close it but irrational to carry through with it. Iran does not have the military muscles to match the US fifth fleet which is based in Bahrain. We always believed there was only a very small chance that Israel would attack Iran in 2012, even though it seemed several players placed some bets on that to happen. Now after the US elections there is however a larger chance for a physical attack since the US will need to be part of this to make any action successful. There is also constant risk for output disruptions in the whole of Middle-East/North-Africa as the "Arab spring" is not at all over in our view. The continuous demonstrations in Egypt illustrate the point. The on-going unrest in Syria, which some view as a proxy war between Iran and Saudi, risks spilling over in a wider sunni-shiite conflict that could threaten stability in the whole region. We hence believe geopolitical risk still justifies a sizeable price premium in the oil market for 2013. | **BULLISH** | **HIGH** |
| **Other Factors** | | | |
| Financial Money Flow | The US has had its quantitative easing (QE) nr 1, nr 2 and nr 3. All have been supportive for oil prices. Also the European LTRO-program launched last December was positive for oil prices. Generally any increased liquidity is short term positive for oil prices. The final solution to the European debt crisis could end up being that the ECB will have to help European countries inflate out of the debt problem. This could be serious trouble for the real economy and physical oil demand but could still (temporarily) support oil prices through financial demand for oil (both through increased investment in paper oil and as a hedge vs inflation). We believe the US "fiscal cliff" will be "solved" by last minute compromises between republicans/democrats and that could cause a liquidity rally as we start 2013. The rally will however be relatively short lived as weak global oil fundamentals start making their negative impact on the market. | BULLISH | MEDIUM |

DNB

MARKETS



Torbjørn Kjus – torbjorn.kjus@dnb.no – Telephone: +47 22 01 78 23

# 2013 Oil Market Outlook

- Weaker fundamentals, but support from geopolitical factors and liquidity. We maintain 107 $/b for Brent in 2013.

**Overall outlook:**

There will be powerful forces working in different directions for the oil market in 2013. Geopolitics and increased liquidity poured into the system from central banks should pose positive elements for oil prices but fundamentally the market will not look strong. After the change of the millennium we have seen two incidents of a decreasing 'Call on OPEC' (2000-02 and 2008-09). Oil prices fell back in both cases. Since we believe the 'Call on OPEC' will decrease significantly in 2013 the average oil price should be falling compared with 2012. We do however still believe Brent on average will trade above 100 $/b, supported by the mentioned geopolitical and liquidity factors. We maintain an average Brent price forecast of 107 $/b for 2013.

**Fundamental balance:**

We forecast that 'Call on OPEC' will decrease by 0.7 million b/d in 2013 on a combination of strong growth in non-OPEC supply (particularly from North-America) and weaker net oil demand growth.

**Refinery margins:**

More refinery capacity will be added in 2013 than net growth in global oil demand. IEA estimate that more than 4 million b/d of capacity will be added if we include desulphurization capacity, upgrading units and CDU expansions. Most of the additions will be in Asia, the Middle East and Former Soviet Union (FSU). The consequence of higher additions to capacity than net growth in demand for refined products will be that the global utilization rate will have to be reduced, which means higher spare capacity in refining. All else equal that should be negative for refinery margins in 2013.

**OECD oil stocks:**

OECD stock levels are high when measured in days of demand coverage. Unless OPEC cuts back output in 2013, OECD stocks will continue to grow. Rising inventories of oil is normally a symptom of a weaker physical market and all else equal should be negative for the oil price formation.

**OPEC Spare Capacity:**

Since we believe there will be a need for OPEC to cut production in 2013 and since we believe Saudi Arabia will target oil prices around 100 $/b, the implication of lower output from OPEC is higher spare capacity. In addition to the increased spare capacity that follows in the footsteps of reduced Saudi Arabian production, OPEC’s production capacity is expected to grow in Iraq (Rumaila/West Qurna/Majnoon), Libya (Elephant) and Angola (Kizomba/Block 31).


Torbjørn Kjus – torbjorn.kjus@dnb.no – Telephone: +47 22 01 78 23

# 2013 Oil Market Outlook

- Weak demand growth coupled with strong non-OPEC supply growth in particularly North-America

**US oil statistics - Fundamentals:**

US oil demand is expected to fall 0.1 million b/d in 2013 while liquids supply is expected to grow 0.7 million b/d on the back of the new shale liquids industry. This means US crude imports should continue to decrease, hence making more crude oil available for other consumers. We expect light, sweet US GOM crude (LLS) to start pricing sustainably below Brent as a consequence of the growing access to light, sweet shale crude in the US. The access to this shale crude will be easier and cheaper in 2013 as new pipeline capacity comes on stream. When light, sweet crude oil in the GOM (LLS) start to price sustainably below Brent, it will start to have an effect on the global oil price discovery. Why is that? Because when LLS start to price sustainably below Brent, the West-African crudes will no longer be drawn towards the US. The US will no longer need this crude and the market will do its job by changing the price differentials. Hence the West-African crudes can soon, instead of moving to the US, contribute to fight decline rates in the North Sea and to feed continued demand growth in Asia.

**Global oil demand growth:**

We believe global oil demand growth will be weak also in 2013. A high oil burden normally provides less "bang for the buck" with respect to the intensity factor vs economic growth. Instead of growing 0.5 percent for every percent growth in global GDP, we believe 2013, just as 2012, will offer significantly lower oil demand growth per unit GDP-growth than the long-term average of 0.5. Chinese oil demand growth has been weak so far in 2012 and with expectations of Chinese economic growth still significantly below the 10-year average for 2013 as well there is probably no reason to expect a return to trend-line growth of Chinese oil demand either. Chinese oil demand is expected to grow 366 kbd vs 271 kbd in 2012. This is meaningfully weaker than the ten-year average growth of 500 kbd. European oil demand will continue to fall by 0.4 million b/d, slightly less than in 2012. OECD Asia oil demand growth, which has been so strong in 2012 (+358 kbd ytd) due to oil used in the power sector in Japan, is expected to fall to about zero in 2013. That could even prove to be optimistic as the 2012-numbers have been inflated by all the nuclear outages (and if many of these reactors return to service next year, oil demand in Japan will start falling). We think net global oil demand will grow only 0.7% in 2013 which is very similar to 2012. Total net OECD demand is expected to decrease 0.5 million b/d in 2013 while total non-OECD demand is expected to rise by 1.1-1.2 million b/d, providing net global oil demand growth of 0.6 million b/d. We still forecast decent demand growth in Asia, Latin America and most of the Middle-East, but the expected weakness in OECD offsets much of the demand growth in non-OECD.

**OPEC:**

We think OPEC will reduce its production meaningfully in 2013. Saudi Arabia will cut its output to balance the market and in addition the Iranian conflict is not set to be resolved and hence Iranian capacity is not set to be fully restored.

DNB

MARKETS



Torbjørn Kjus – torbjorn.kjus@dnb.no – Telephone: +47 22 01 78 23

# 2013 Oil Market Outlook

- Political risk and liquidity to support oil prices in 2013

**Non-OPEC:**

Non-OPEC production including biofuels is expected to increase by 1.1 million b/d in 2013. 70% of this growth is expected to come in North-America, due to the shale liquids revolution. Key field contributors will continue to be Bakken and Eagle Ford. We do however expect contribution to growth also from other non-OPEC countries like Kazakhstan (Kashagan/ Tengiz), Russia (Vankor), Brazil (Aruana/Roncador/Guara), Colombia (Castilla), Malaysia (Gumusut) and Canada (Kearl Lake). OPEC NGLs production is expected to increase by 0.3 million b/d. This is normally added to the non-OPEC supply category since it is not part of OPEC's production target system. This means total non-OPEC production including OPEC NGLs is expected to increase by 1.4 million b/d. We do not expect unplanned supply outages caused by accidents, strikes, security issues, technical problems and weather to be as high in 2013 as we have seen in 2012. The largest part of the unplanned outages in 2012 was due to reduced production in Sudan/South-Sudan, Syria, Yemen and the UK (the Buzzard field). The largest reduction in unplanned outage is expected from South-Sudan which we estimate will see a gradual return during 2013 starting in February to reach pre-conflict level of above 300 kbd by the end of next year.

**Political risk:**

The largest risk is connected to Iran's nuclear program and the fact that EU has decided an oil embargo vs the country and US has imposed financial sanctions. Officials in Iran have threatened to close the Strait of Hormuz where 35-40% of the worlds traded oil passes through. We do not think Iran will choose to close the strait. It is rational to threat to close it but irrational to carry through with it. Iran does not have the military muscles to match the US fifth fleet which is based in Bahrain. We always believed there was only a very small chance that Israel would attack Iran in 2012, even though it seemed several players placed some bets on that to materialize. Now after the US elections there is however a larger chance for a physical attack since the US will need to be part of this to make any action successful. There is also constant risk for output disruptions in the whole of Middle-East/North-Africa as the "Arab spring" is not at all over in our view. The continuous demonstrations in Egypt illustrate the point. The whole region, which is still behind most of the worlds oil exports, still has a demography made for social unrest. It is full of young, unemployed and (angry) men, with access to information they did not have ten years ago. The on-going unrest in Syria, which some view as a proxy war between Iran and Saudi, risks spilling over in a wider sunni-shiite conflict that could threaten stability in the whole region. We hence believe geopolitical risk still justifies a sizeable price premium in the 2013 oil market.

**Financial money flow:**

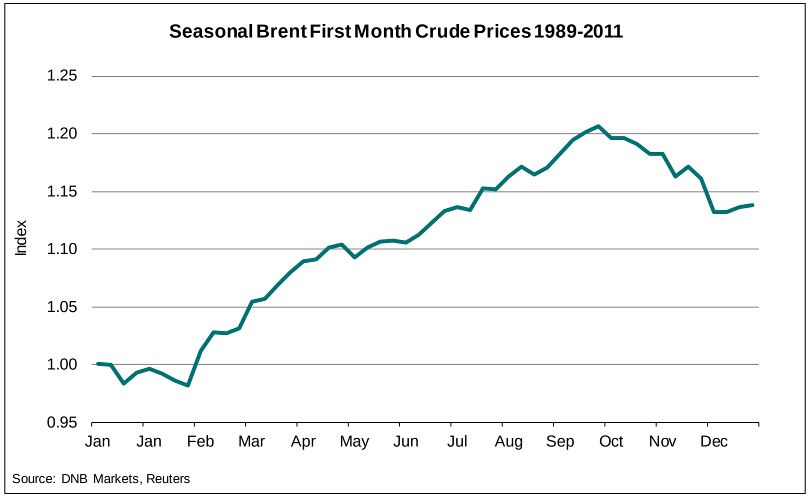
The US has had its quantitative easing (QE) nr 1, nr 2 and nr 3. All have been supportive for oil prices. Also the European LTRO-program launched in December 2011 was positive for oil prices. Generally any increased liquidity is short term positive for oil prices. The final solution to the European debt crisis could end up being that the ECB will have to help European countries inflate out of the debt problem. The fear of inflation is positive for oil prices. Inflation could spell serious trouble for the real economy and physical oil demand but could still (temporarily) support oil prices through financial demand for oil (both through increased investments in paper oil and as a hedge vs inflation). We believe the US "fiscal cliff" will be "solved" by last minute compromises between republicans/democrats and that could cause a liquidity rally in the first part of 2013. The rally will however be relatively short lived as weak global oil fundamentals start making their negative impact on the market.

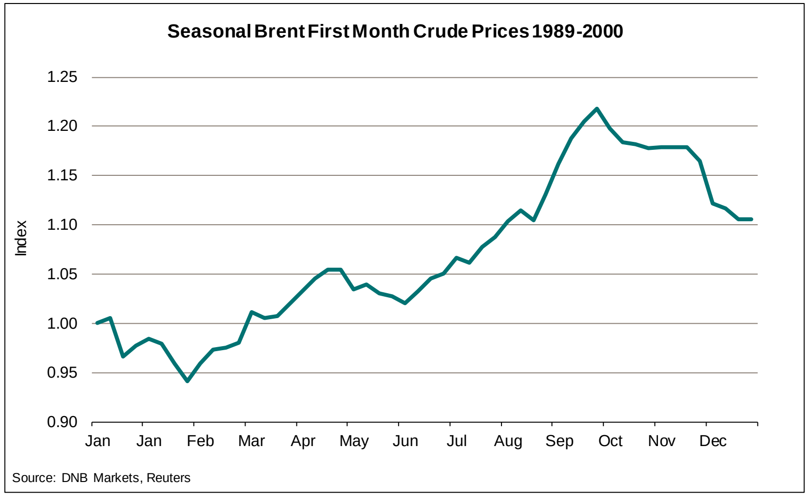


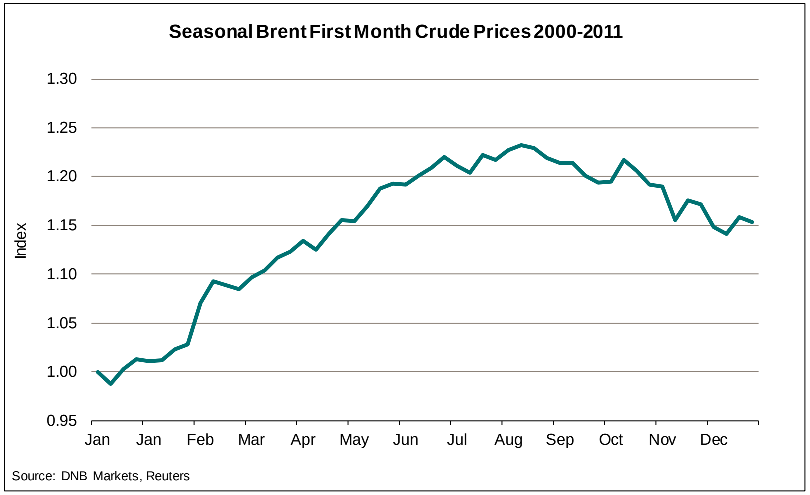
Torbjørn Kjus – torbjorn.kjus@dnb.no – Telephone: +47 22 01 78 23

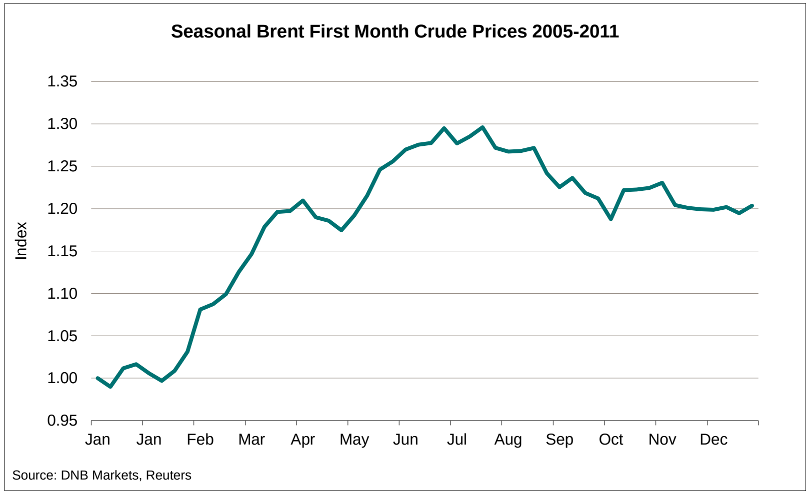
# Crude Price Development Normally Strongest In Q2

- There is no statistically significant seasonality in crude prices but on average the development is strongest in Q2




DNB

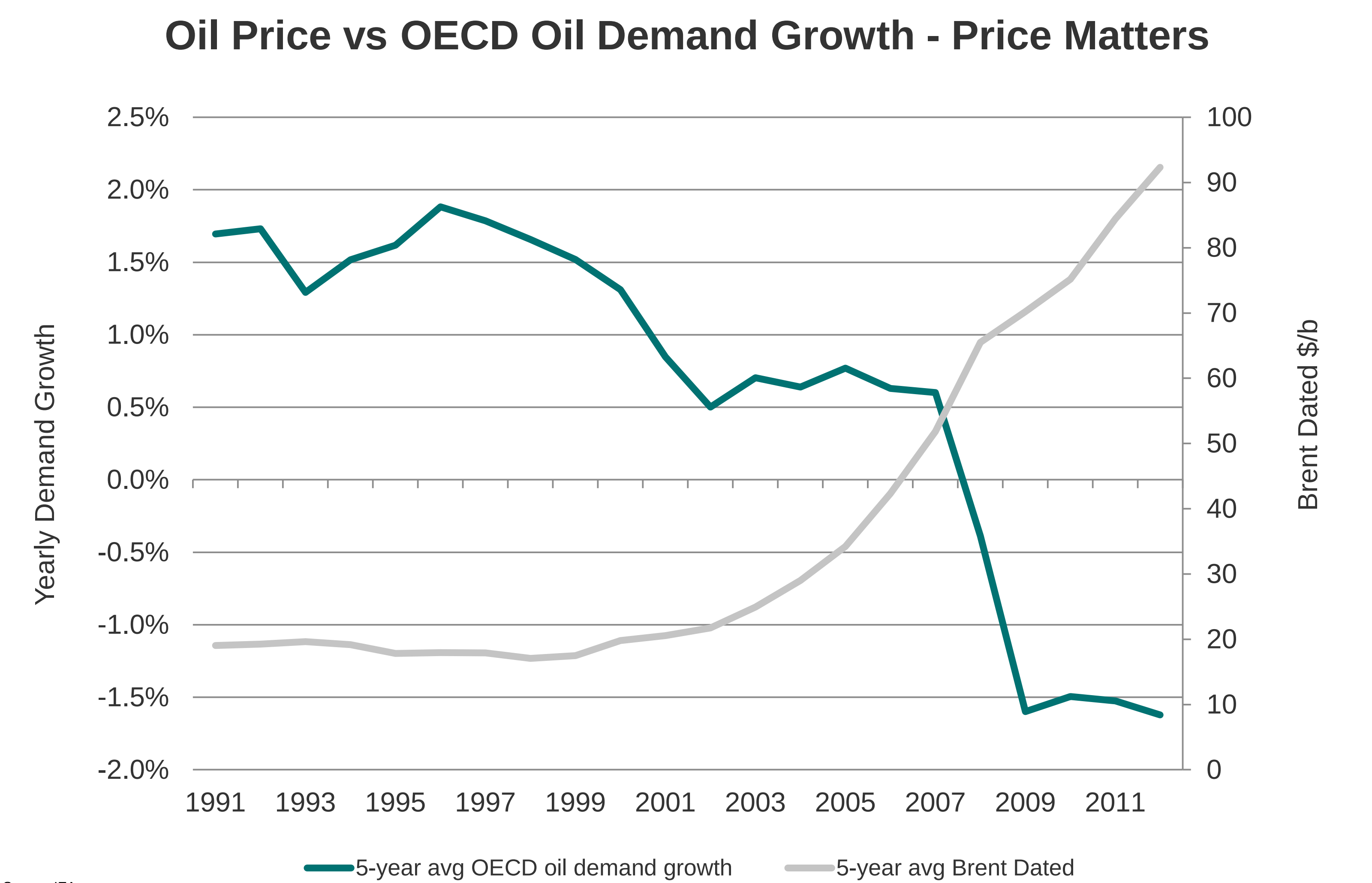
MARKETS



Torbjørn Kjus – torbjorn.kjus@dnb.no – Telephone: +47 22 01 78 23

# Oil Demand Growth Has Suffered In The OECD

- And we believe this will continue to be the case in the current decade



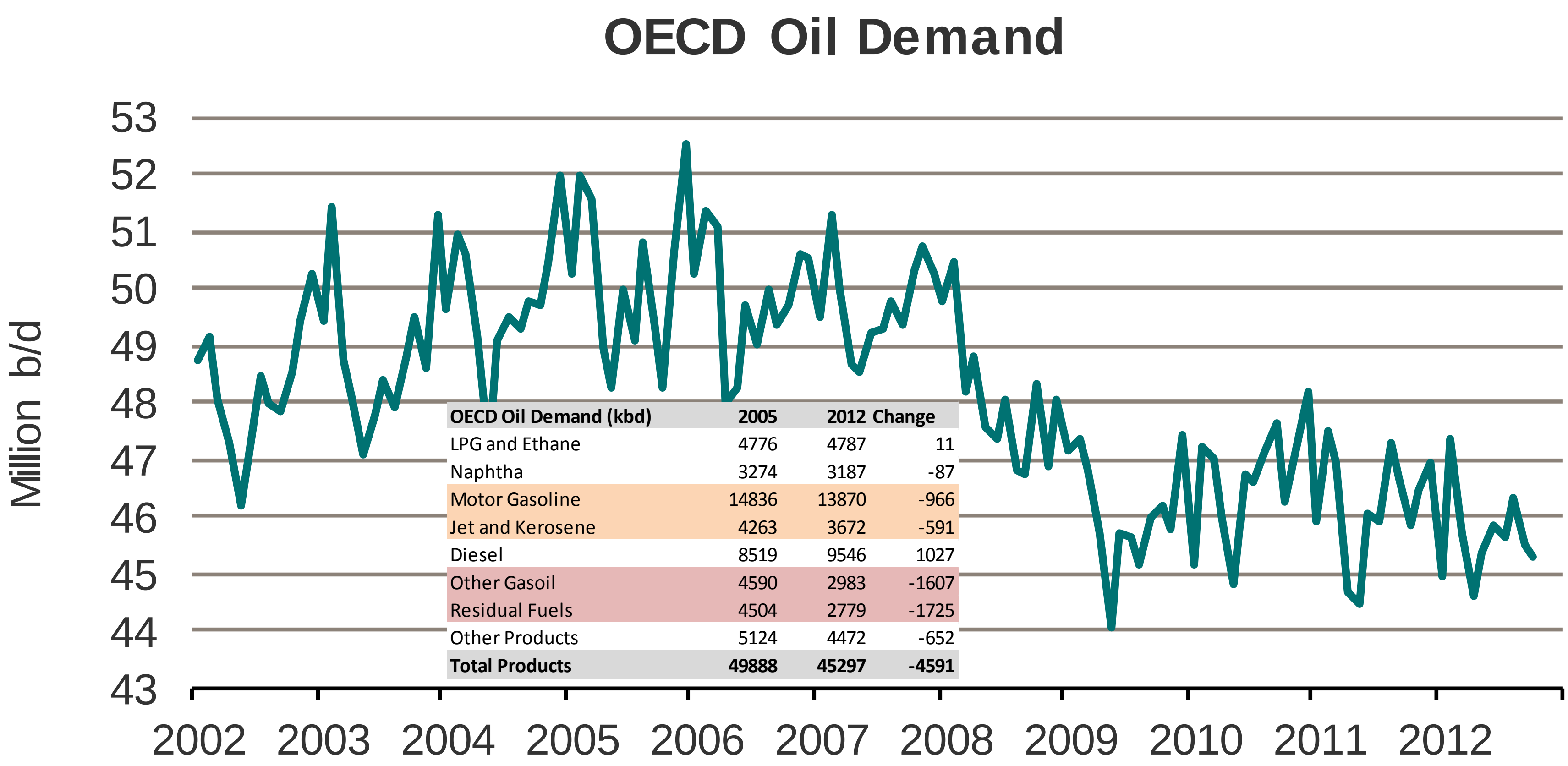

Source: IEA




Torbjørn Kjus – torbjorn.kjus@dnb.no – Telephone: +47 22 01 78 23

# Peak Oil Has Already Happened

- At least when talking about demand in the developed world – and a large chunk of this looks structural and not cyclical




| OECD Oil Demand (kbd) | 2005 | 2012 | Change |
|---|---|---|---|
| LPG and Ethane | 4776 | 4787 | 11 |
| Naphtha | 3274 | 3187 | -87 |
| Motor Gasoline | 14836 | 13870 | -966 |
| Jet and Kerosene | 4263 | 3672 | -591 |
| Diesel | 8519 | 9546 | 1027 |
| Other Gasoil | 4590 | 2983 | -1607 |
| Residual Fuels | 4504 | 2779 | -1725 |
| Other Products | 5124 | 4472 | -652 |
| **Total Products** | **49888** | **45297** | **-4591** |

Source: IEA

DNB

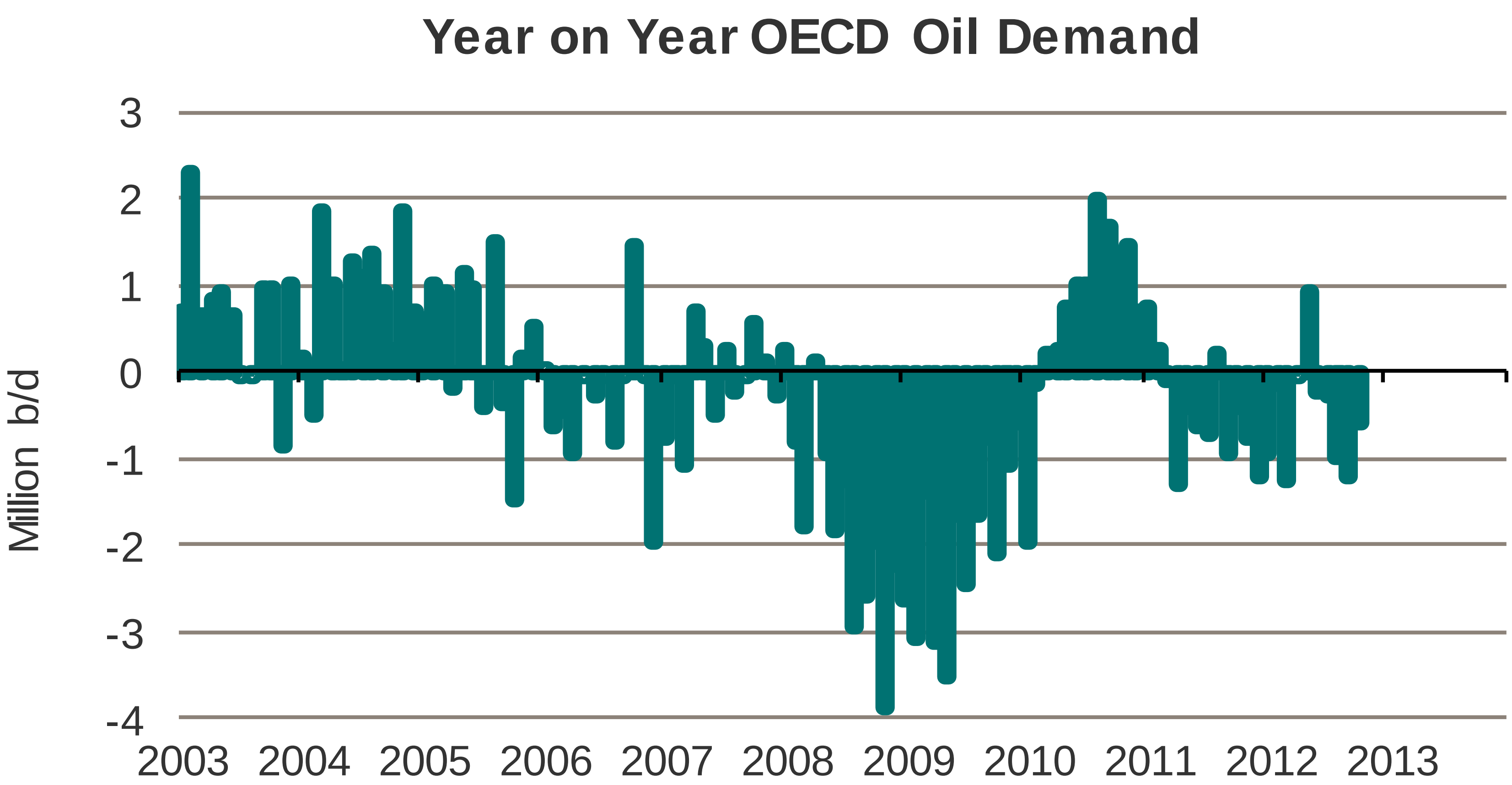
MARKETS



Torbjørn Kjus – torbjorn.kjus@dnb.no – Telephone: +47 22 01 78 23

# Oil Demand Continue To Decrease In The OECD

- After the pickup in 2010 we are back to negative territory in the OECD




Source: IEA

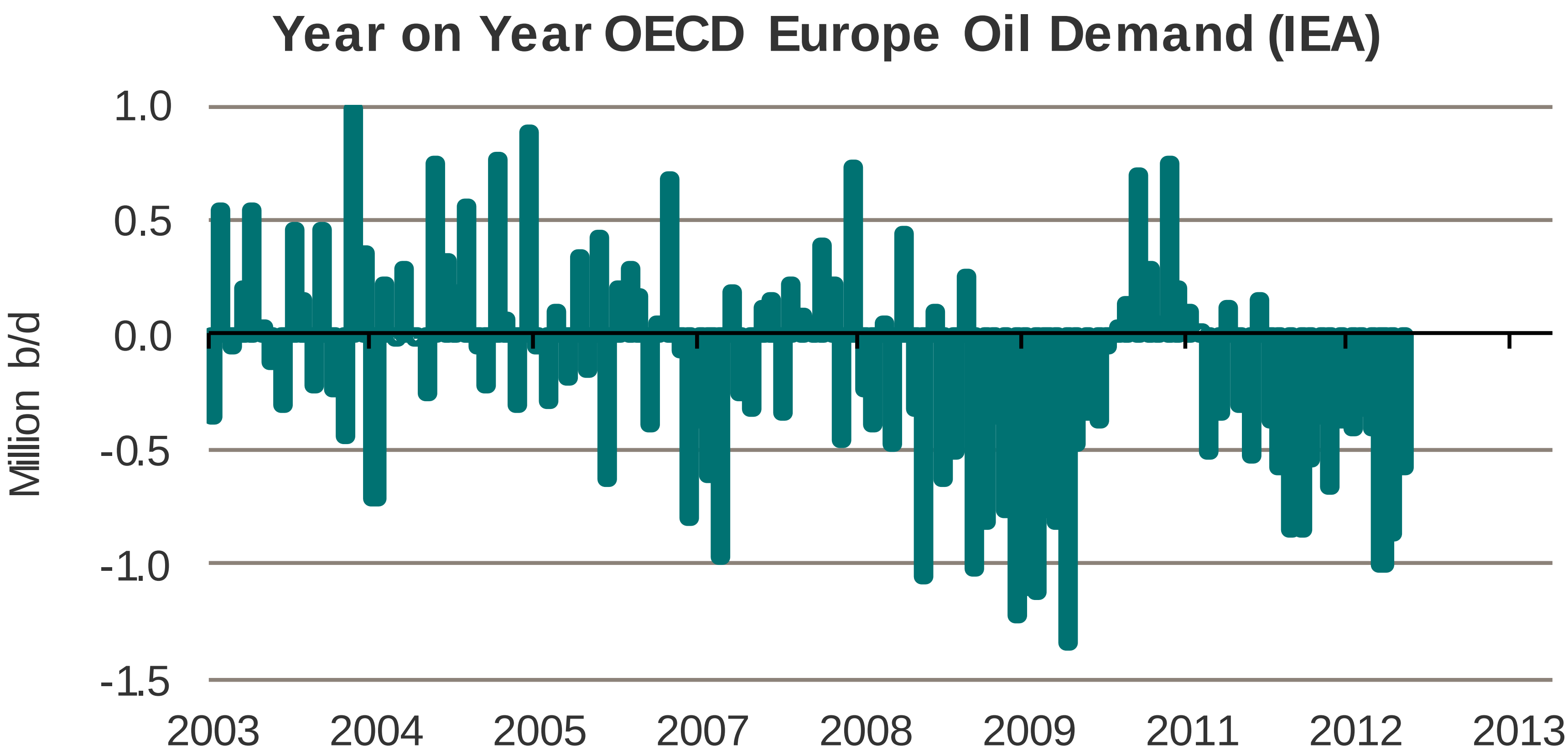
DNB MARKETS



Torbjørn Kjus – torbjorn.kjus@dnb.no – Telephone: +47 22 01 78 23

# Europe Is The Main Culprit

- The European economy is suffering and hence so is oil demand




Source: IEA

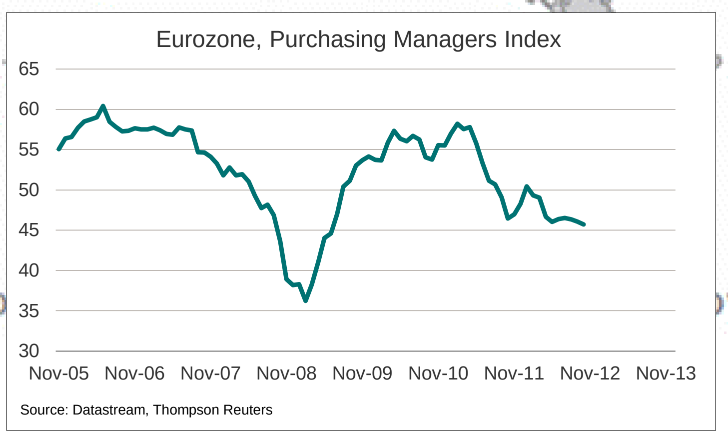
DNB MARKETS



Torbjørn Kjus – torbjorn.kjus@dnb.no – Telephone: +47 22 01 78 23

# Europe's Structural Problem Is Large Government Spending

- And to make it worse by 2060 one out of three Europeans will be above 65 years of age, so who’s going to contribute??
- Living standards will be forced down as states are trying to reduce debt, wages are lowered and public benefits reduced

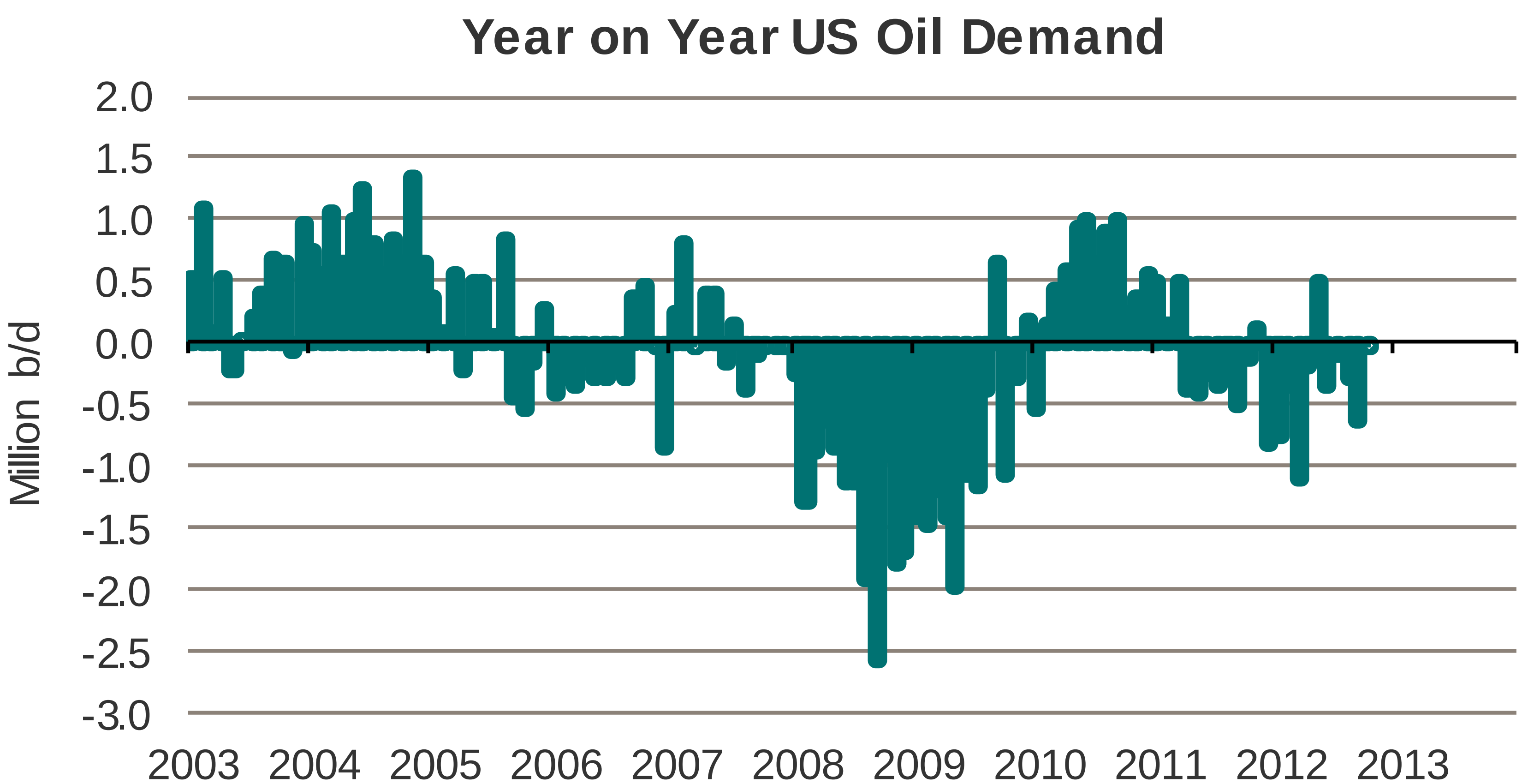




Torbjørn Kjus – torbjorn.kjus@dnb.no – Telephone: +47 22 01 78 23

# Demand Is Falling In The US As Well

- US oil demand continues to decrease but we believe not as much as Europe next year




Source: DOE

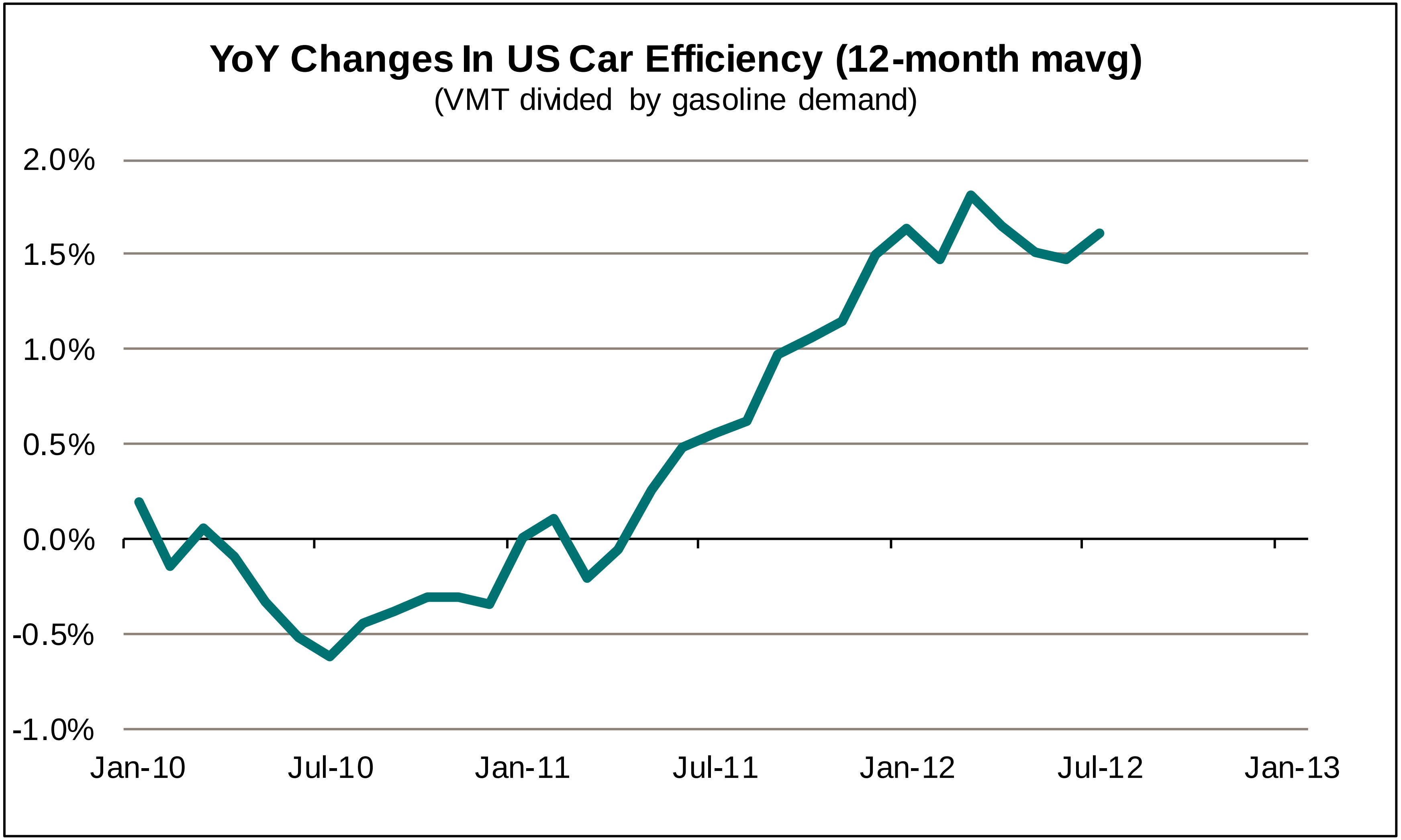
MARKETS



Torbjørn Kjus – torbjorn.kjus@dnb.no – Telephone: +47 22 01 78 23

# Efficiency Improvements In The US Car Fleet Already Visible

- This is set  to improve further in the coming years



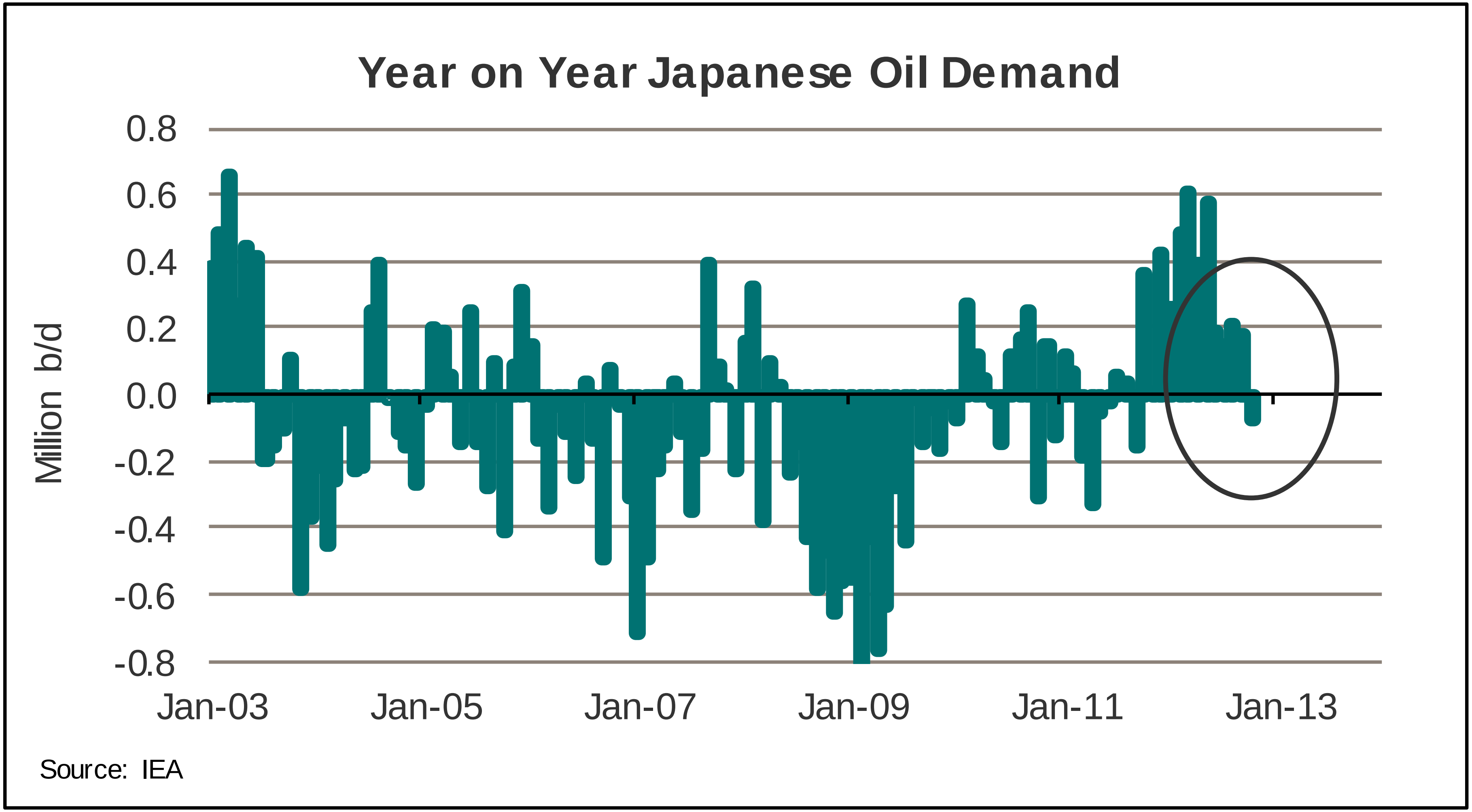




Torbjørn Kjus – torbjorn.kjus@dnb.no – Telephone: +47 22 01 78 23

# The Strength In Japanese Oil Demand Is Fading

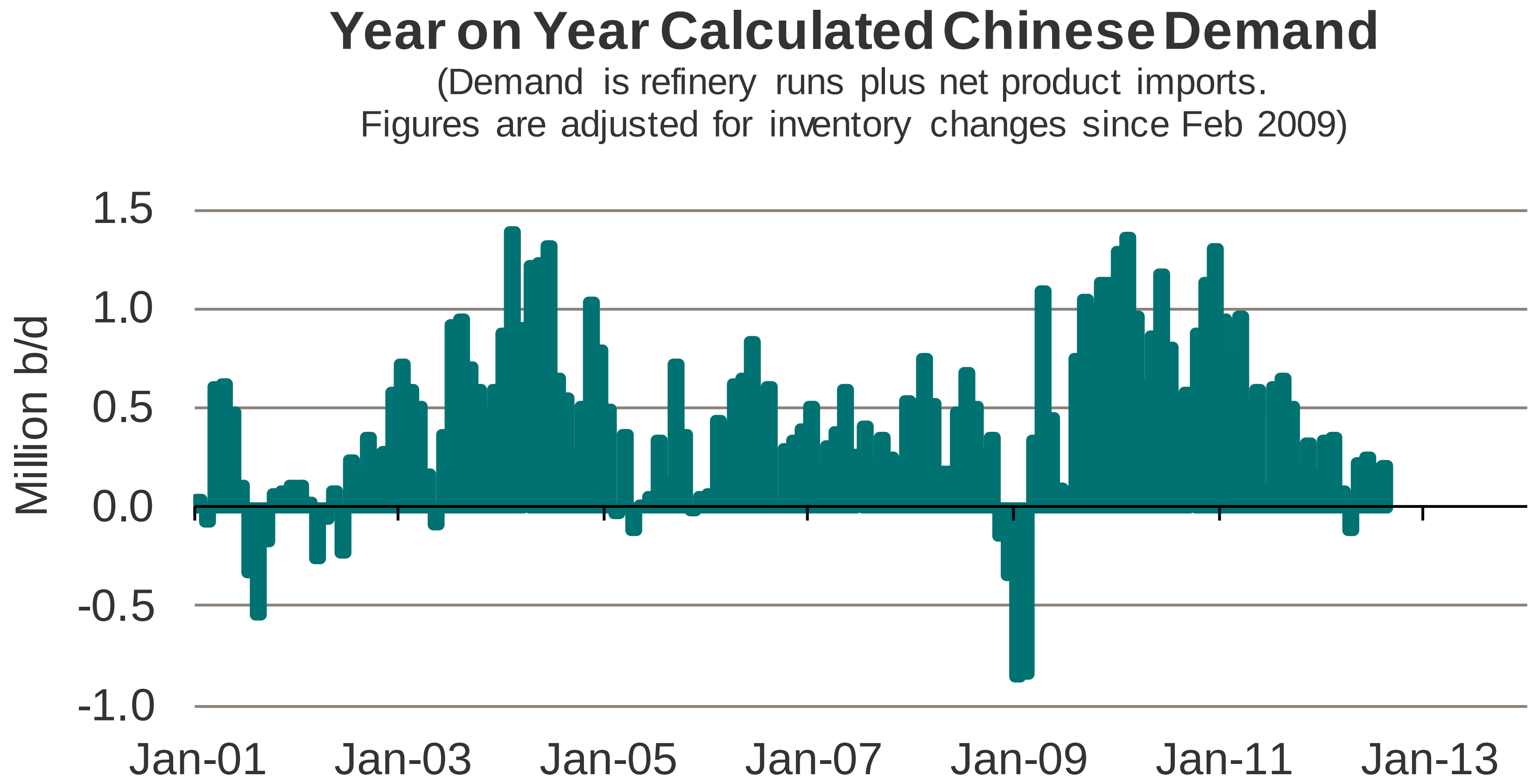
- As we start to compare with a period where all the Japanese nuclear reactors were shut down, the oil demand strength fades






Torbjørn Kjus – torbjorn.kjus@dnb.no – Telephone: +47 22 01 78 23

# Chinese Oil Demand Growth Is Weaker Recently



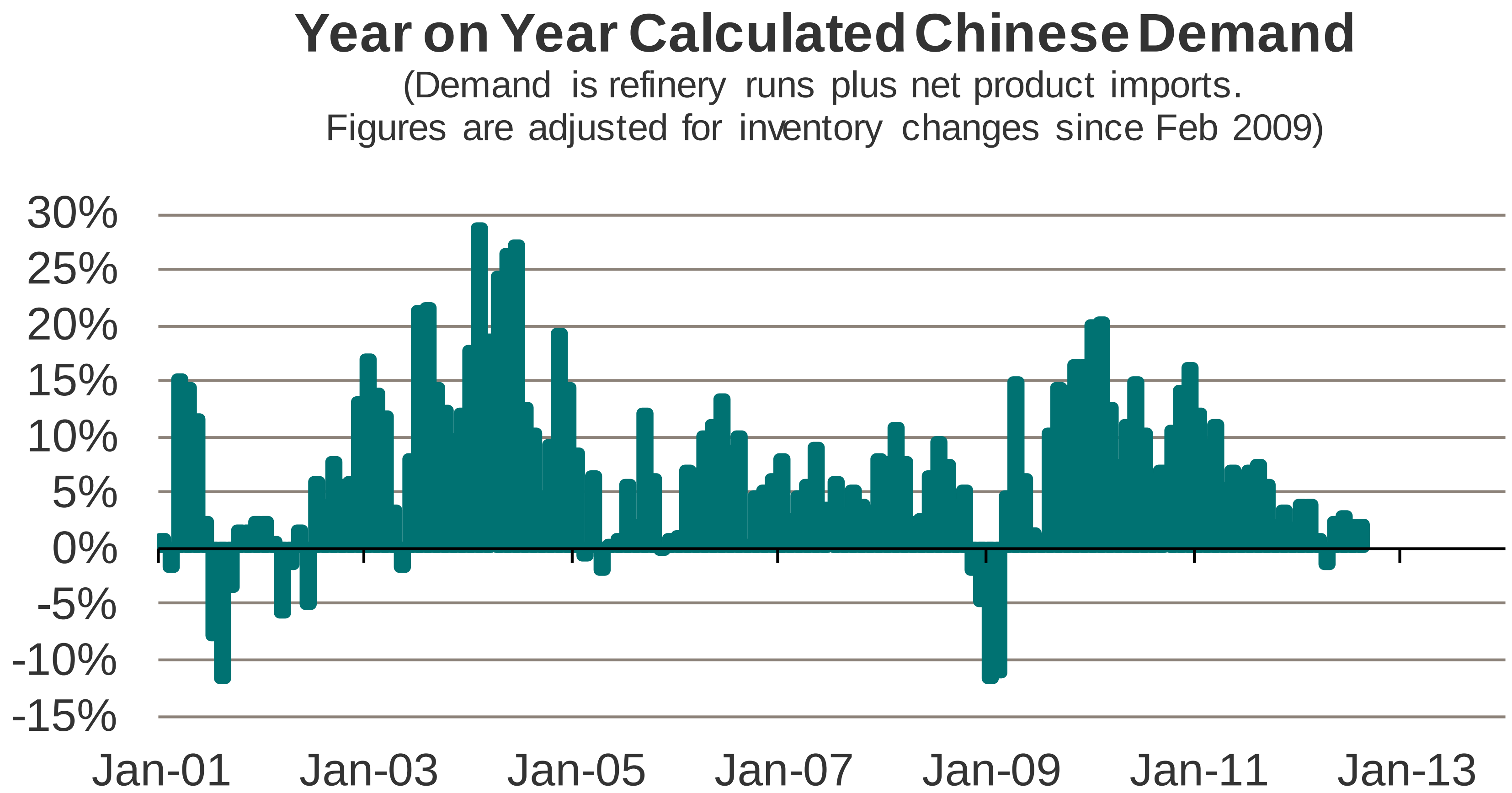

Source: China OGP, Xinhua News, The Chinese General Administration & Customs, National Bureau of Statistics

MARKETS



Torbjørn Kjus – torbjorn.kjus@dnb.no – Telephone: +47 22 01 78 23

# Chinese Oil Demand Growth In Percent – Trending Lower




Source: China OGP, Xinhua News, The Chinese General Administration & Customs, National Bureau of Statistics

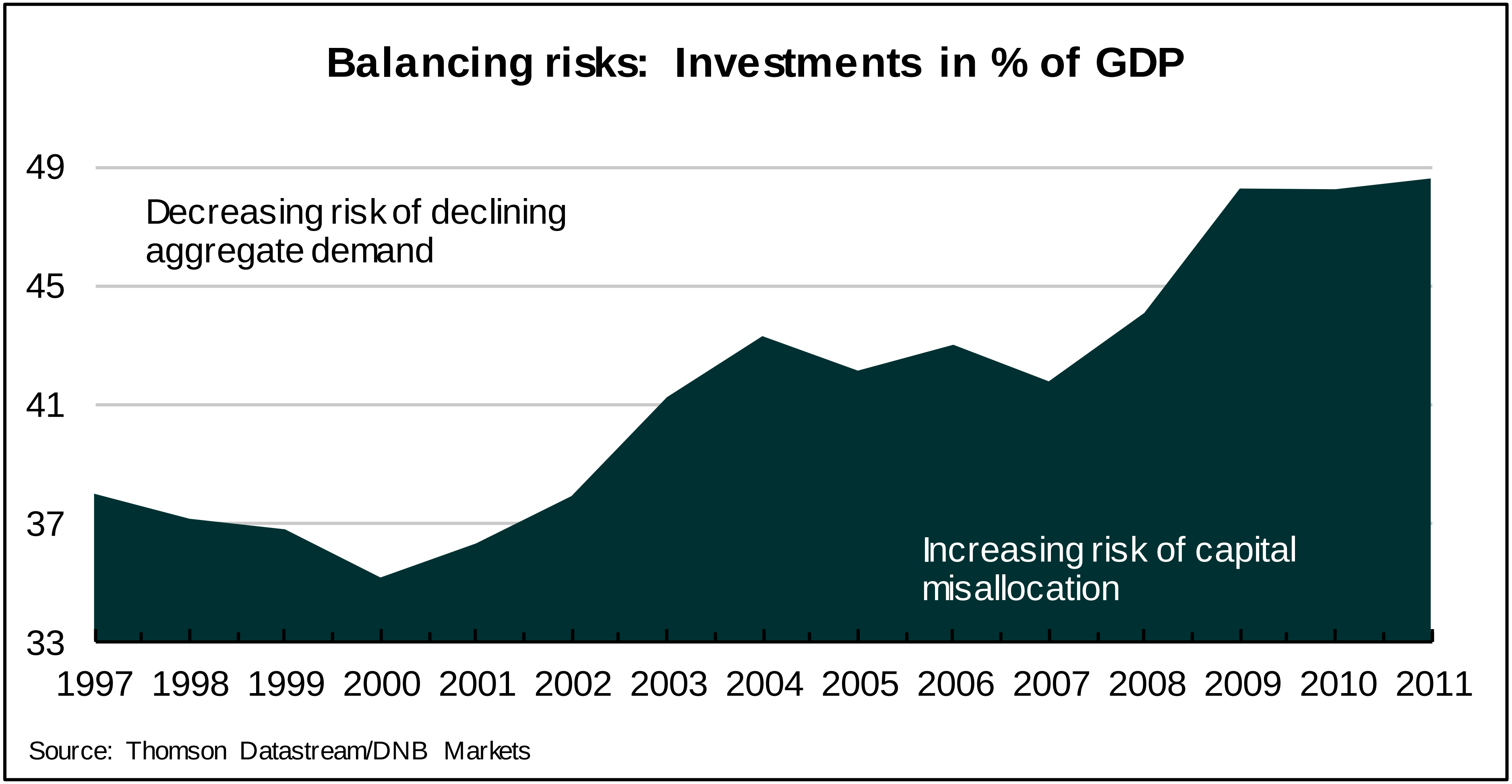
DNB MARKETS



Torbjørn Kjus – torbjorn.kjus@dnb.no – Telephone: +47 22 01 78 23

# Less “how to create growth” - more “what type of growth to create”

-Likely to abstain from “chasing growth”, and instead maintain housing market controls

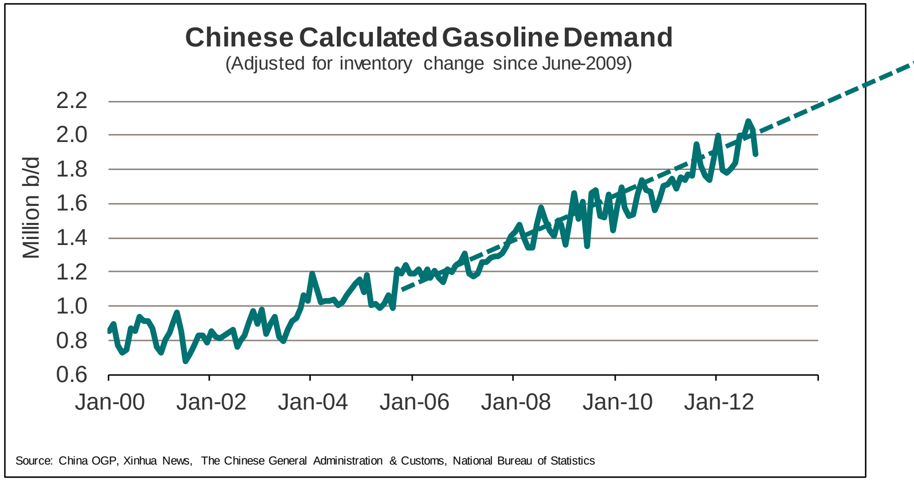


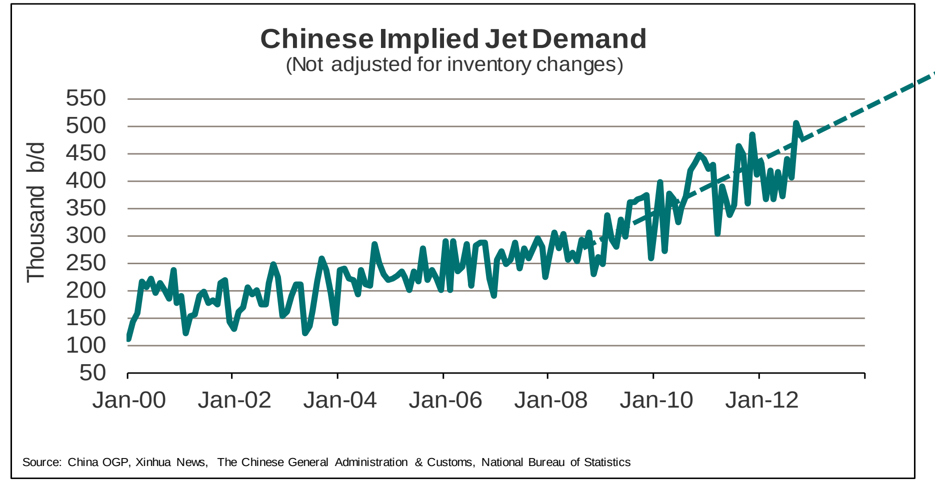

DNB MARKETS

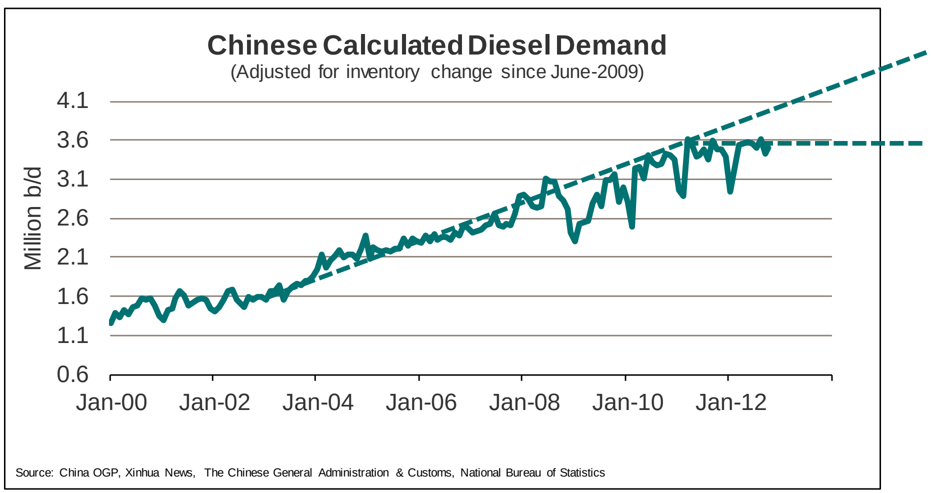
Torbjørn Kjus – torbjorn.kjus@dnb.no – Telephone: +47 22 01 78 23

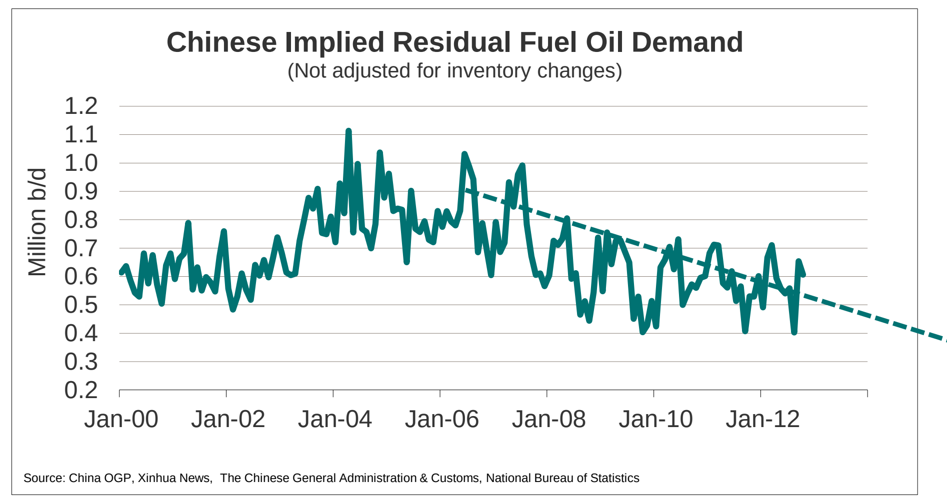
# Chinese Oil Demand Growth To Favor Personal Consumption

- Oil products more tilted towards industrial production and the investment cycle may grow much slower in coming years



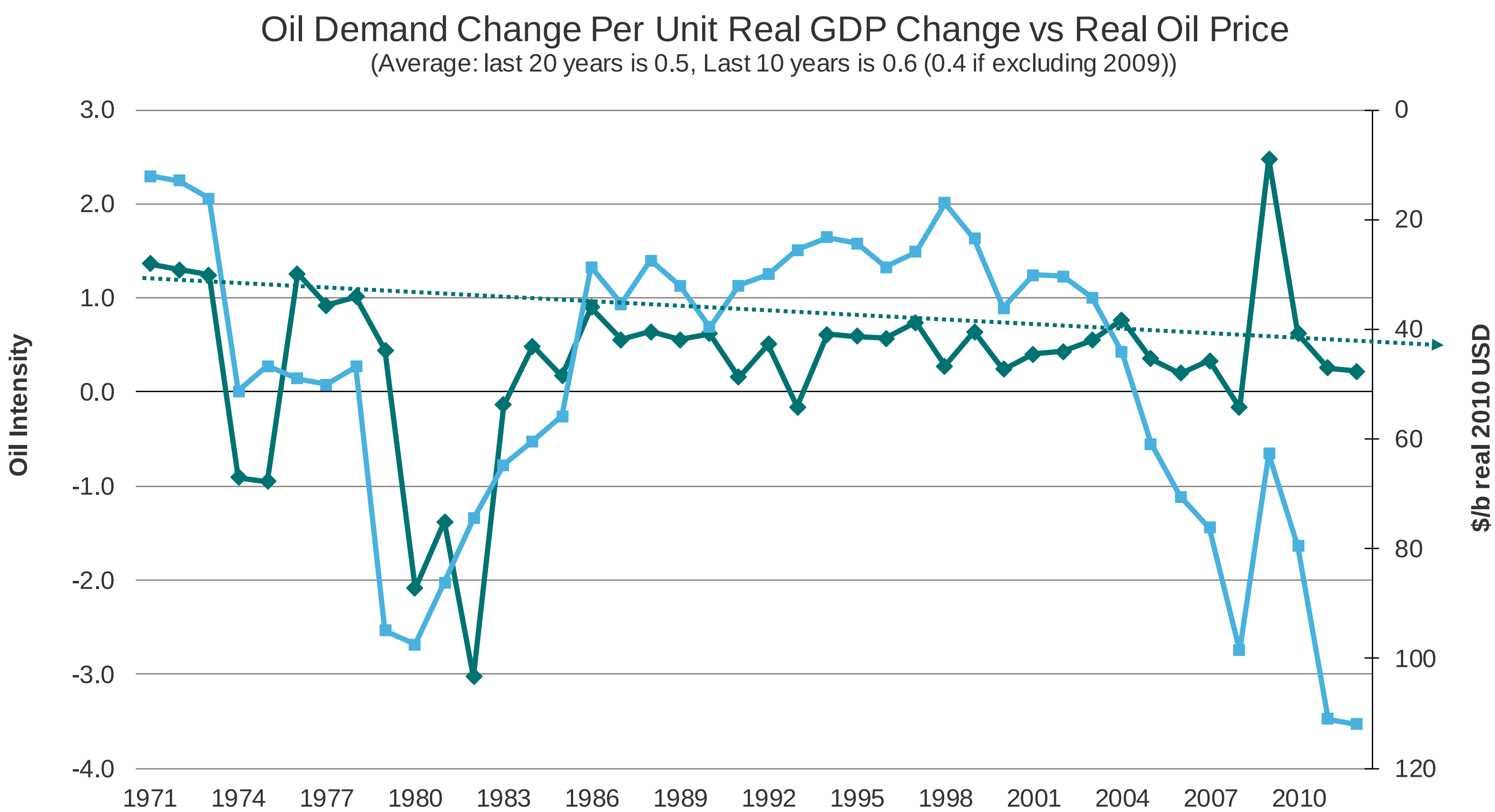

MARKETS



Torbjørn Kjus – torbjorn.kjus@dnb.no – Telephone: +47 22 01 78 23

# We Expect Oil Intensity vs GDP Growth To Be Weak In 2013

- Intensity is trending lower which means 3% global GDP growth will not yield 1.5% oil demand growth anymore
- On high oil prices the oil intensity factor can fall even below zero
- 3.5% global GDP growth could yield only 0.7% oil demand growth (intensity of 0.2) if the oil price is high



Source: BP stats, IEA, IMF, DNB Markets

DNB

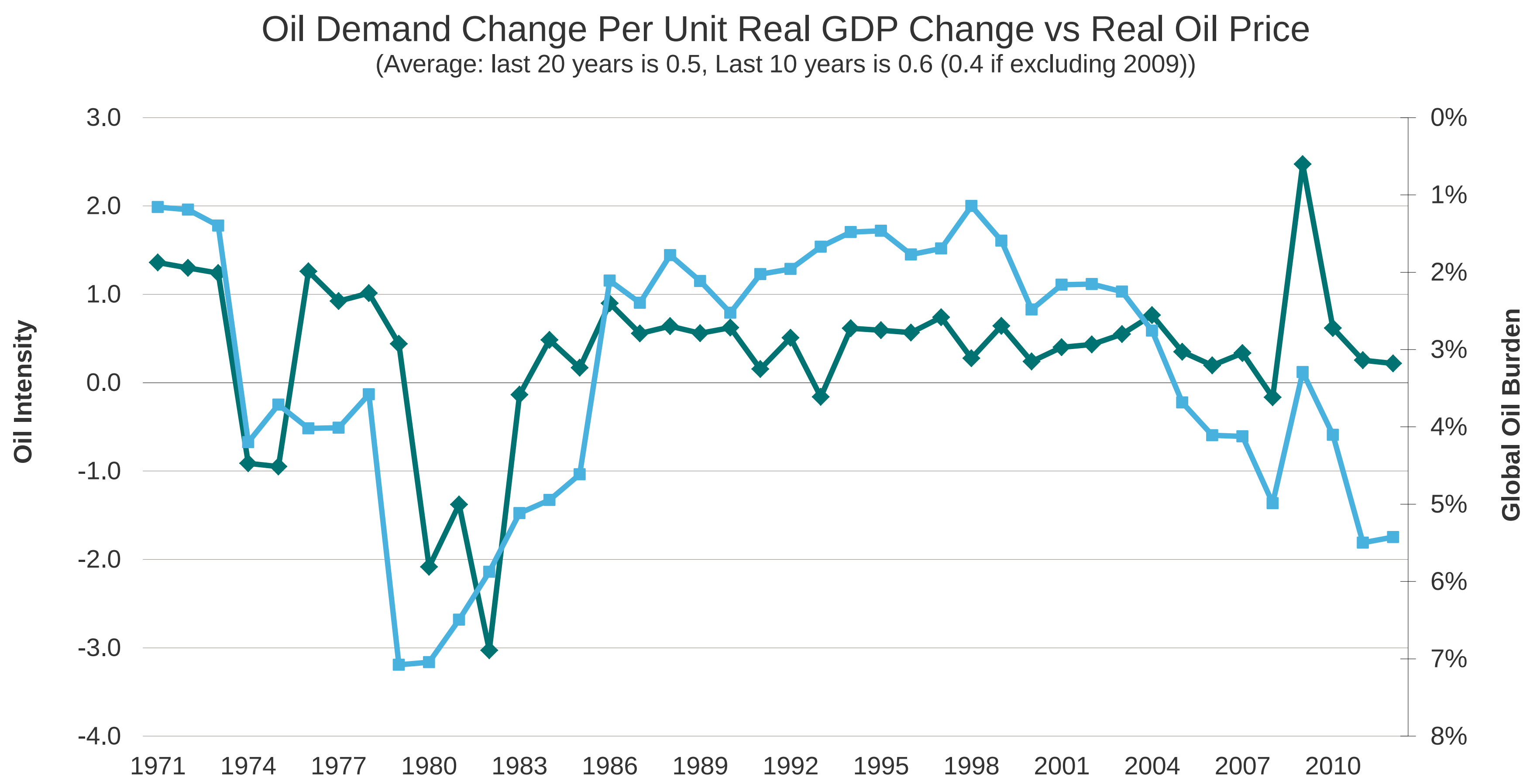
MARKETS



Torbjørn Kjus – torbjorn.kjus@dnb.no – Telephone: +47 22 01 78 23

# Even More Visible When Compared With The Oil Burden

- When the oil burden becomes high, then GDP-growth yields less oil demand growth per unit GDP-growth




Source: BP stats, IEA, IMF, DNB Markets

DNB

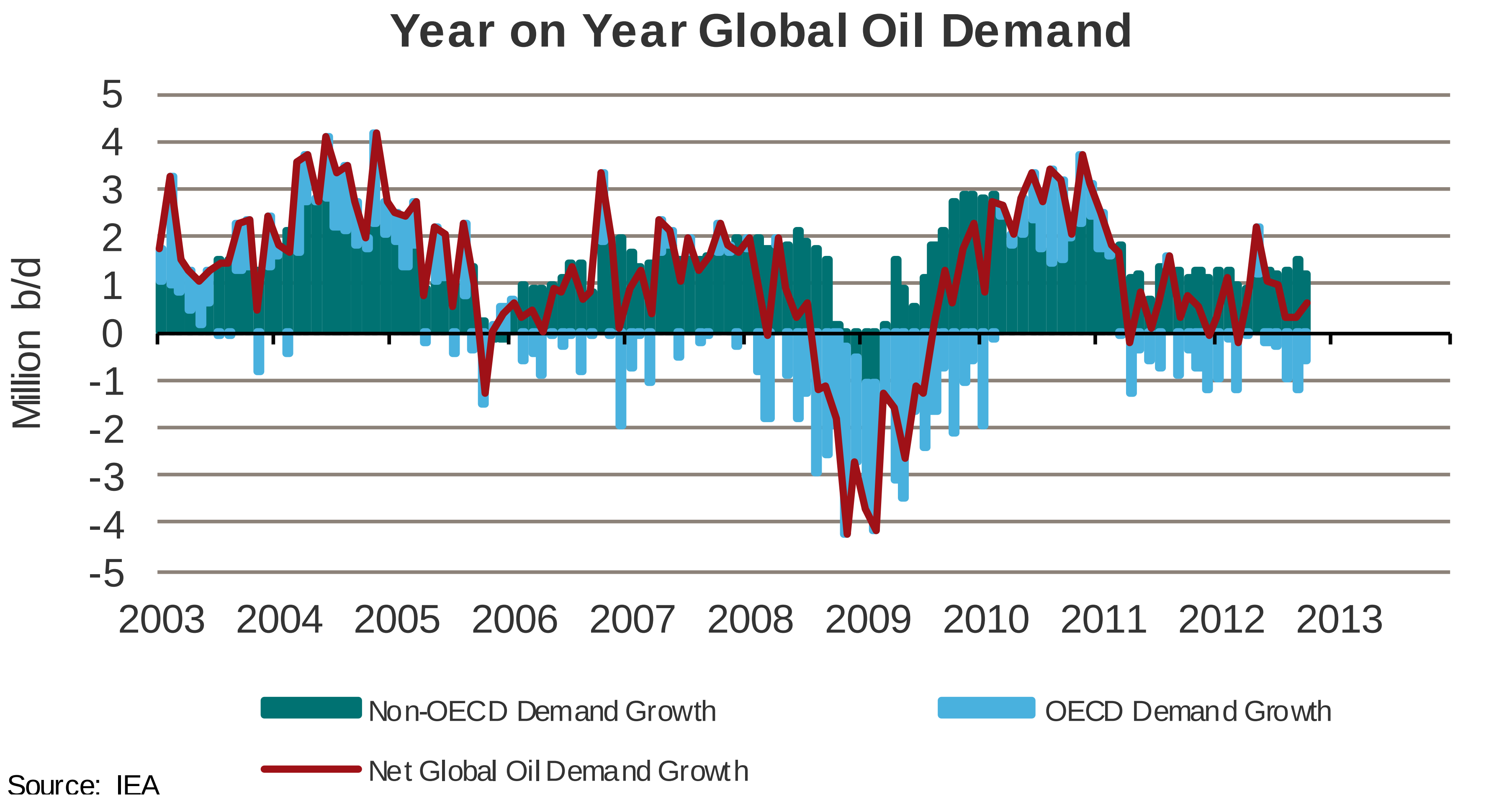
MARKETS



Torbjørn Kjus – torbjorn.kjus@dnb.no – Telephone: +47 22 01 78 23

# We Believe The Same Demand Picture Will Continue In 2013

- Non-OECD will continue to grow (although weaker than in 2004, 05, 07, 08, 10, 11) and OECD demand will continue to drop




Source: IEA

DNB

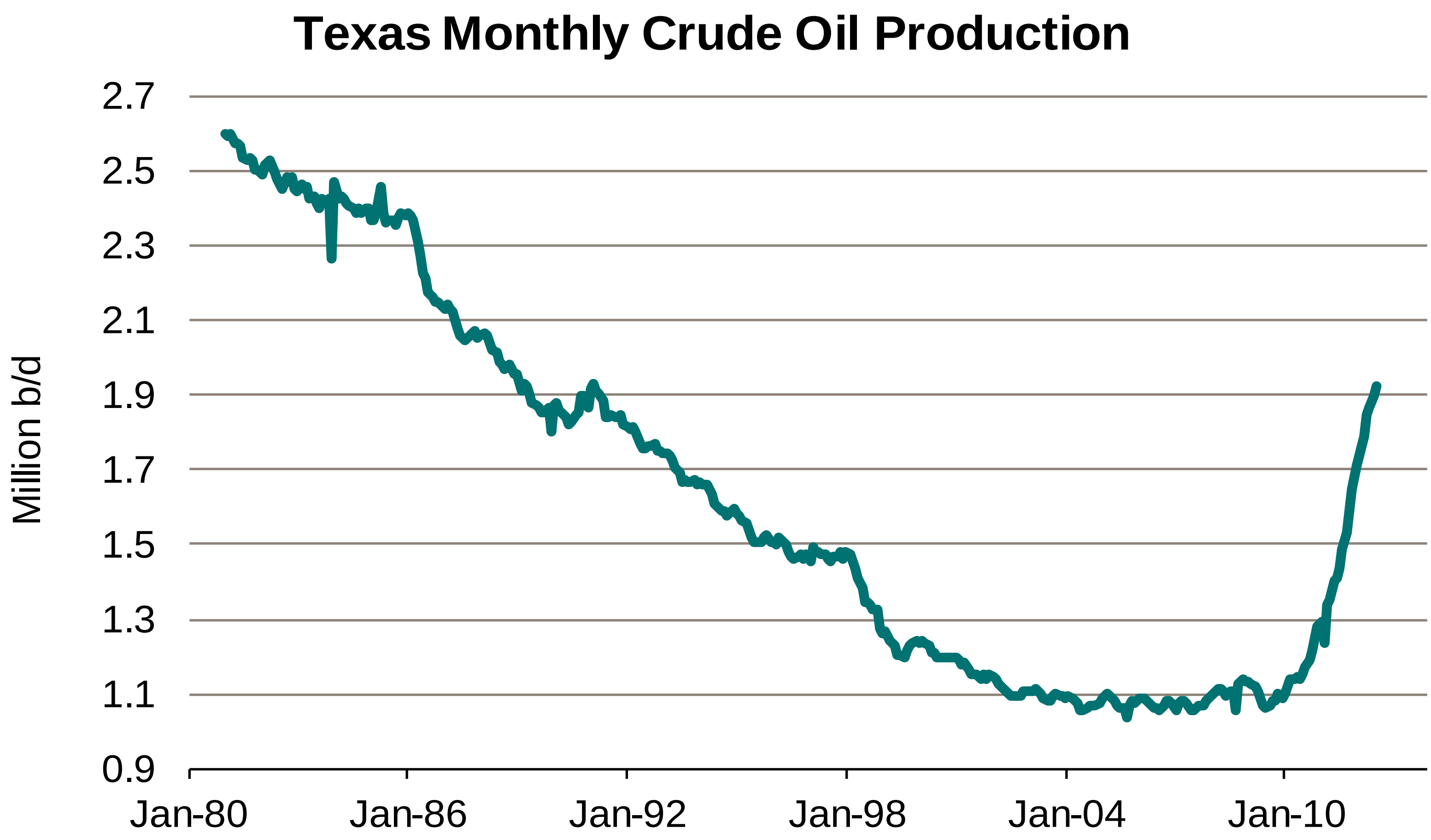
MARKETS



Torbjørn Kjus – torbjorn.kjus@dnb.no – Telephone: +47 22 01 78 23

# The Key Oil Graph Of Year 2012

- After having declined for about 40 years Texas oil production is now “exploding” to the upside



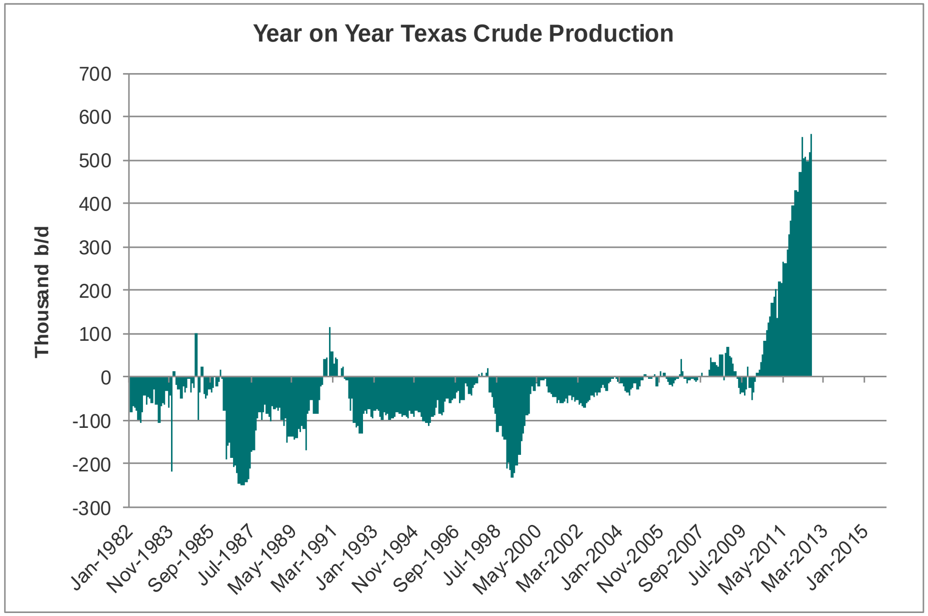

Source: US DOE

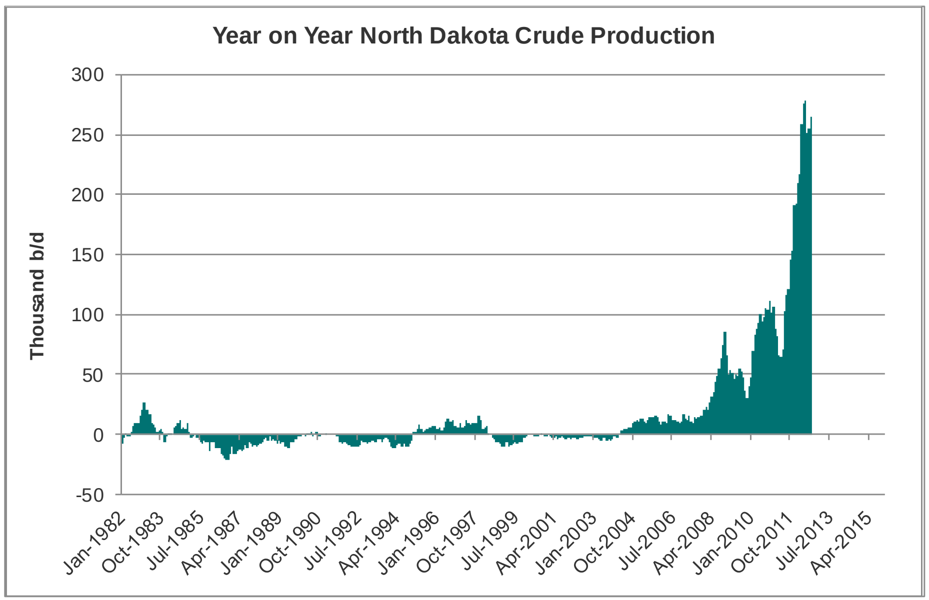


Torbjørn Kjus – torbjorn.kjus@dnb.no – Telephone: +47 22 01 78 23

# Texas & North Dakota Is Where It Has Happened So Far

- Growth in North Dakota started in 2008 while Texas was two years later in the cycle



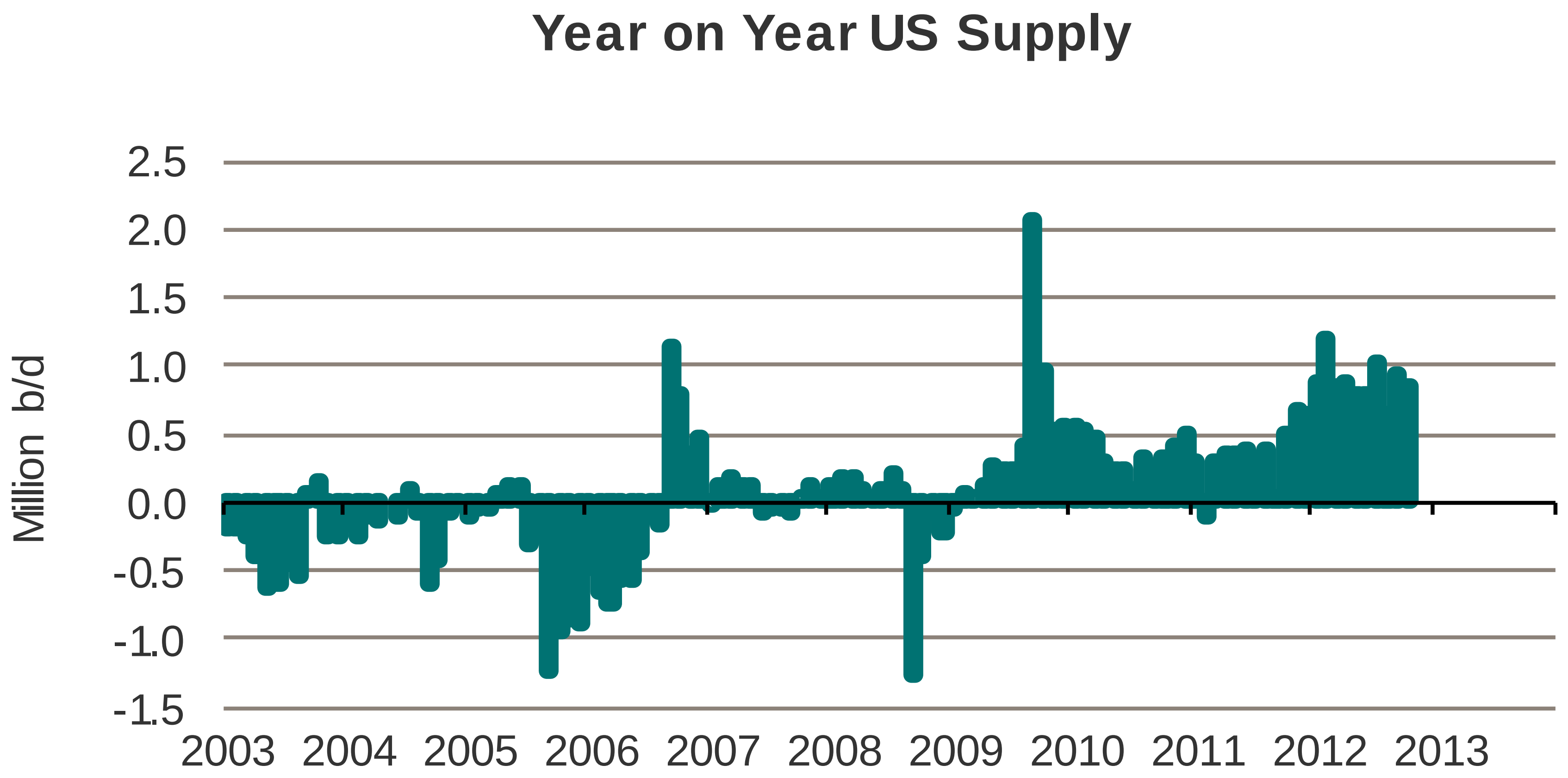

MARKETS



Torbjørn Kjus – torbjorn.kjus@dnb.no – Telephone: +47 22 01 78 23

# The Key Non-OPEC Growth Is Of Course Coming From The US

- Year on year liquids production growth in the US is up almost 1 million b/d



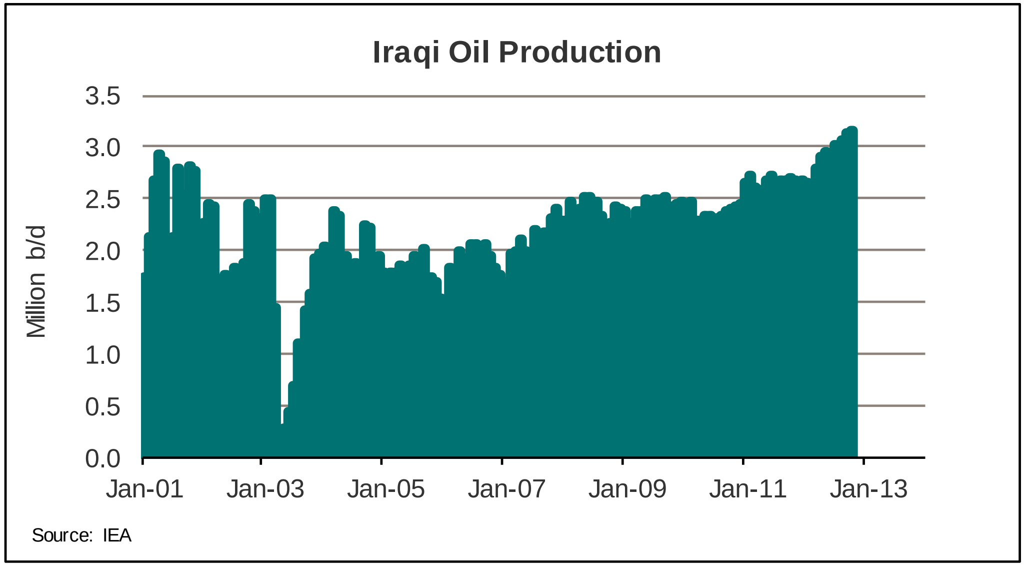

Source: IEA

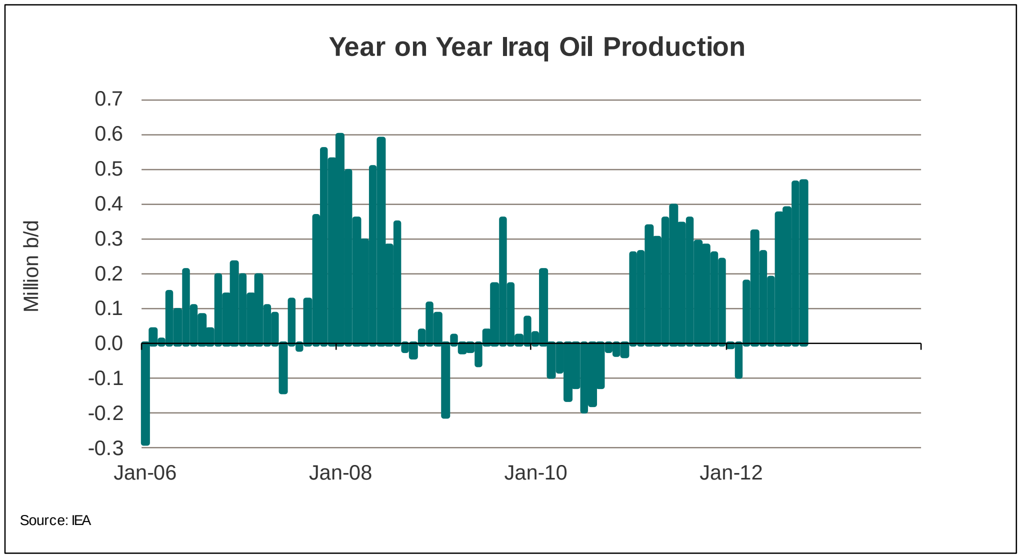



Torbjørn Kjus – torbjorn.kjus@dnb.no – Telephone: +47 22 01 78 23

# Iraqi Output Is Also Growing Very Meaningful

- And Iraq should probably not be classified as an OPEC country since the country will maximize production at all times



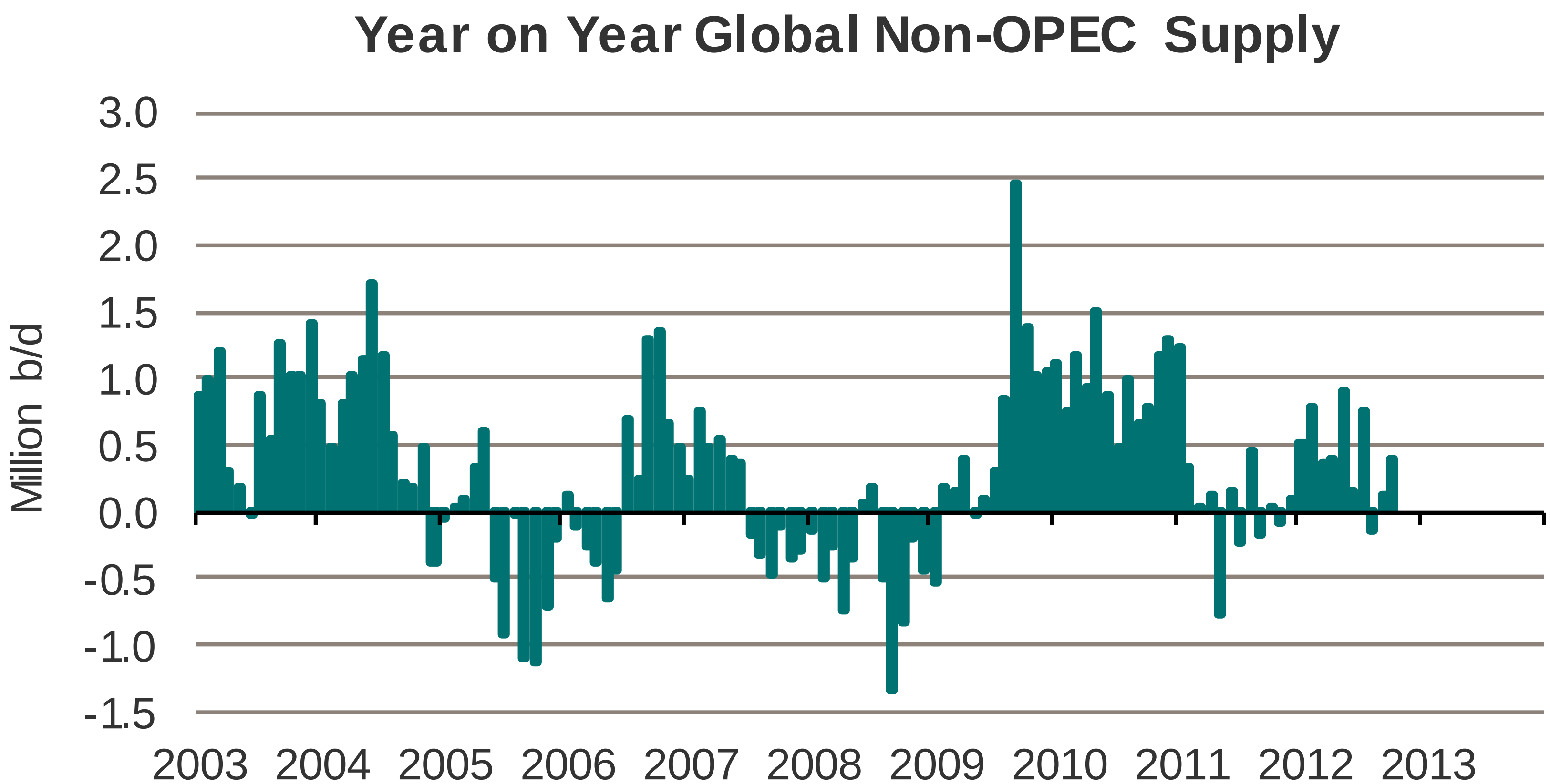




Torbjørn Kjus – torbjorn.kjus@dnb.no – Telephone: +47 22 01 78 23

# Non-OPEC Production Is Growing Again

- But is the pure non-OPEC category really what we want to look at?




Source: IEA

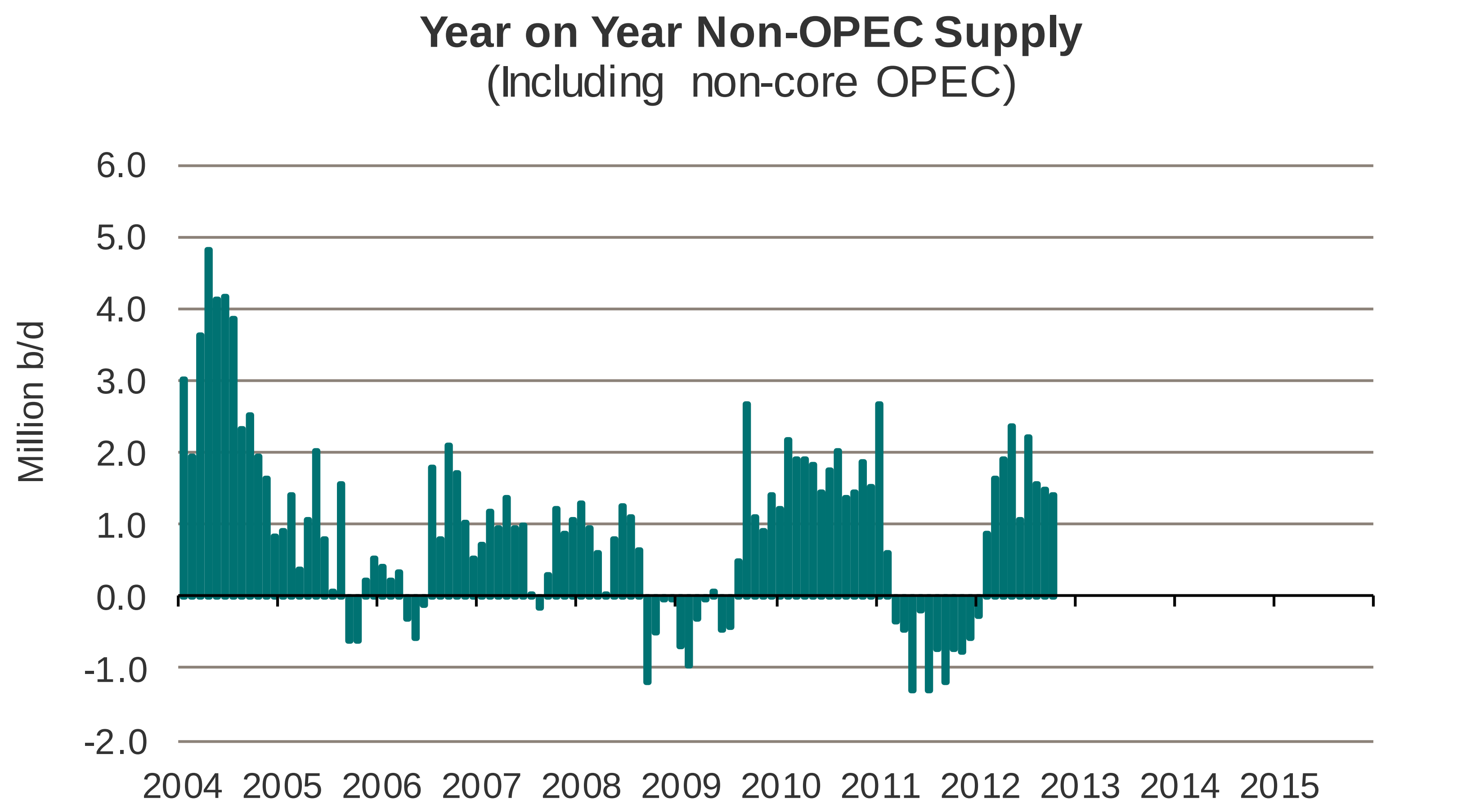
DNB MARKETS



Torbjørn Kjus – torbjorn.kjus@dnb.no – Telephone: +47 22 01 78 23

# Probably More Telling To Include Non-Core OPEC As Well

- We want to separate the countries that always produce as much as they can from the swing producers




Source: IEA

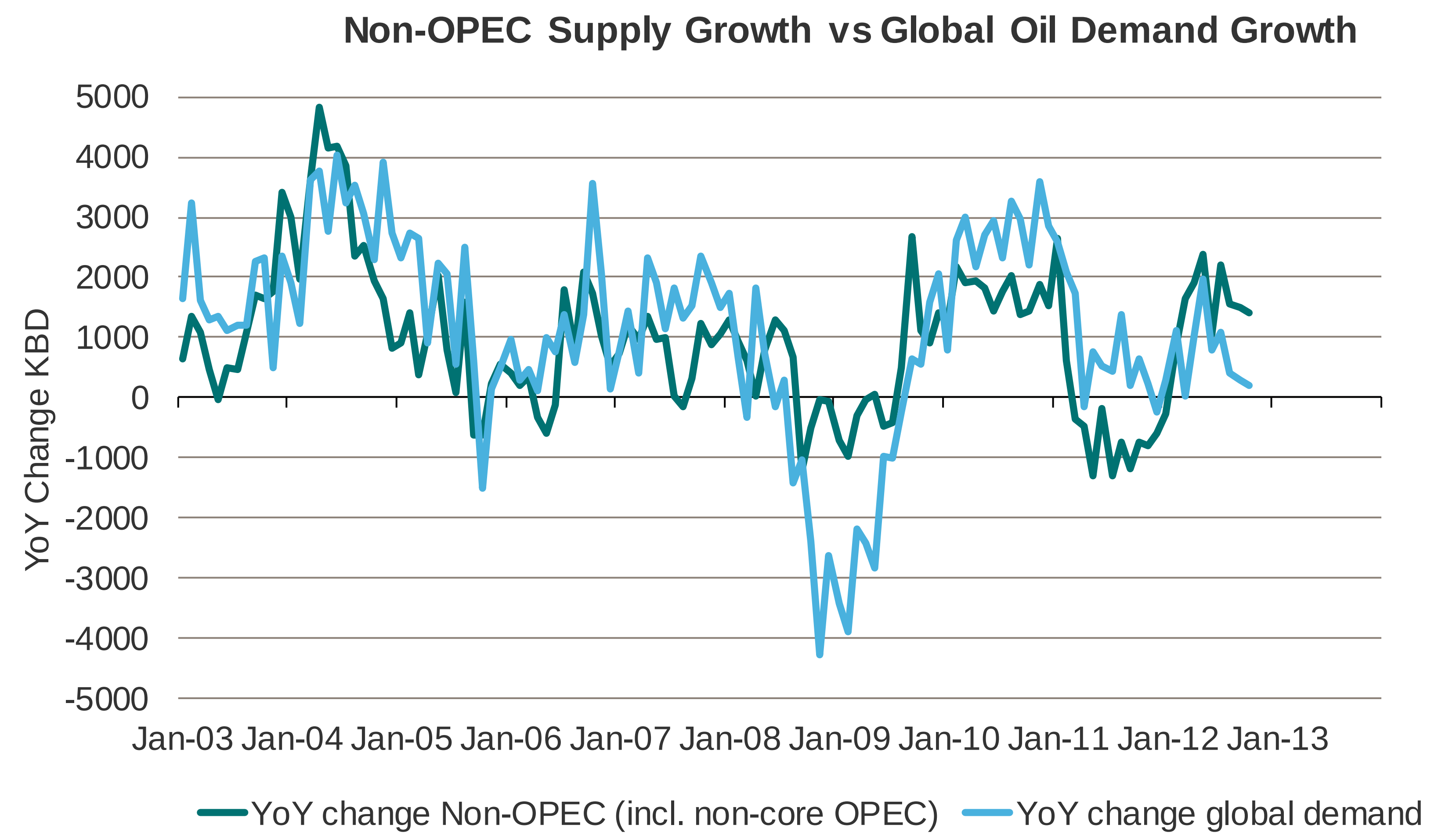
DNB MARKETS



Torbjørn Kjus – torbjorn.kjus@dnb.no – Telephone: +47 22 01 78 23

# Non-OPEC Growth Outpacing Global Oil Demand Growth

- Using a more sophisticated view of non-OPEC reveals structural supply grows quicker than demand




Source: IEA

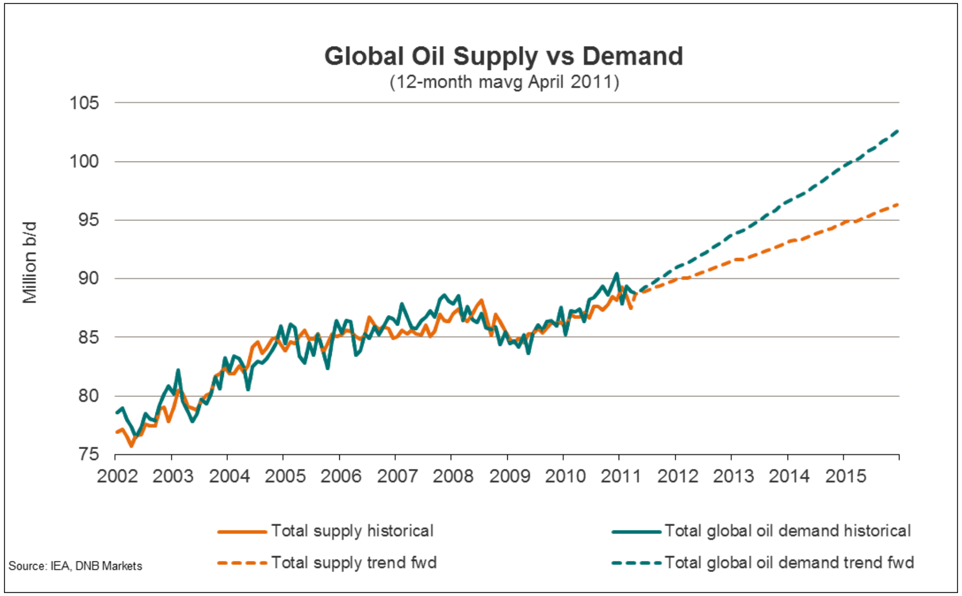
DNB MARKETS

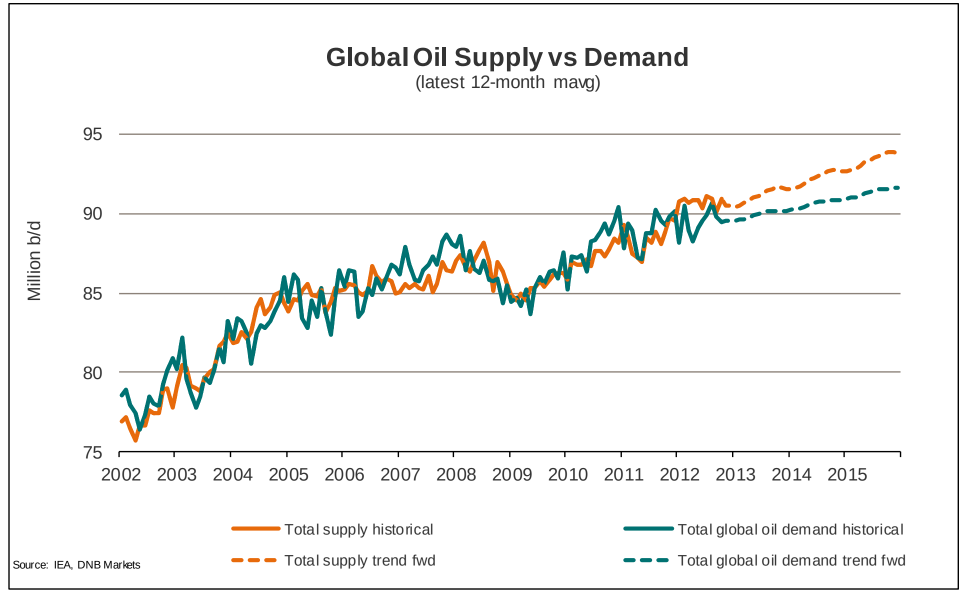


Torbjørn Kjus – torbjorn.kjus@dnb.no – Telephone: +47 22 01 78 23

# Global Supply-Demand Trends

-12 month moving average based on the latest monthly data suggest decreasing 'Call on OPEC' in coming years
- Last year the situation was different (see the graph to the left)




| Current Trend Line Figures | Trend Line Growth | 2012 | 2013 | 2014 | 2015 | 2012-15 change |
|---|---|---|---|---|---|---|
| **OECD demand** | **-1.2%** | 46.0 | 45.5 | 44.9 | 44.4 | **-1.6** |
| **Non-OECD demand:** | **2.7%** | 43.4 | 44.6 | 45.9 | 47.1 | **3.7** |
| **Total demand** | | 89.4 | 90.1 | 90.8 | 91.5 | **2.0** |
| **Demand change:** | | | **0.6** | **0.7** | **0.7** | **0.7** |
| **Non-OPEC (incl. non-core OPEC)** | **1.4%** | 75.3 | 76.4 | 77.5 | 78.6 | **3.3** |
| **Call on core-OPEC crude** | | 14.1 | 13.7 | 13.2 | 12.8 | **-1.3** |
| **Change in Call on core-OPEC crude** | | | **-0.4** | **-0.4** | **-0.4** | |



Torbjørn Kjus – torbjorn.kjus@dnb.no – Telephone: +47 22 01 78 23

# Fundamental Balances DNB Markets vs IEA, OPEC, EIA

| DNB Markets World Oil Supply-Demand Balance: | 2008 | Change | 2009 | Change | 2010 | Change | 2011 | Change | 2012 | Change | 2013 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| OECD Demand | 48.1 | -2.0 | 46.1 | 0.6 | 46.6 | -0.4 | 46.2 | -0.5 | 45.7 | -0.5 | 45.1 |
| Non-OECD Demand | 37.7 | 1.2 | 38.9 | 2.1 | 41.1 | 1.3 | 42.4 | 1.2 | 43.6 | 1.2 | 44.7 |
| **Total Demand** | **85.8** | **-0.8** | **85.0** | **2.7** | **87.7** | **0.9** | **88.6** | **0.7** | **89.2** | **0.6** | **89.8** |
| Non-OPEC Supply | 49.2 | 0.6 | 49.8 | 1.0 | 50.8 | 0.1 | 50.9 | 0.4 | 51.3 | 1.0 | 52.2 |
| OPEC NGL's and non-conventional oil | 4.5 | 0.4 | 4.9 | 0.5 | 5.4 | 0.4 | 5.8 | 0.4 | 6.2 | 0.3 | 6.5 |
| Global Biofuels | 1.4 | 0.2 | 1.6 | 0.2 | 1.8 | 0.0 | 1.9 | 0.0 | 1.9 | 0.1 | 2.0 |
| **Total Non-OPEC supply** | **55.1** | **1.2** | **56.3** | **1.7** | **58.0** | **0.5** | **58.5** | **0.8** | **59.4** | **1.4** | **60.8** |
| **Call on OPEC crude (and stocks)** | **30.6** | **-2.0** | **28.7** | **1.0** | **29.7** | **0.3** | **30.0** | **-0.2** | **29.8** | **-0.7** | **29.1** |
| OPEC Crude Oil Supply (Last known number dragged fwd) | 31.6 | -2.5 | 29.1 | 0.1 | 29.2 | 0.6 | 29.9 | 1.6 | 31.4 | -0.3 | 31.2 |
| **Implied World Oil Stock Change** | **1.0** | | **0.4** | | **-0.4** | | **-0.1** | | **1.6** | | **2.1** |

| IEA World Oil Supply-Demand Balance (Nov 2012): | 2008 | Change | 2009 | Change | 2010 | Change | 2011 | Change | 2012 | Change | 2013 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| OECD Demand | 48.4 | -2.0 | 46.4 | 0.6 | 46.9 | -0.4 | 46.6 | -0.5 | 46.1 | -0.3 | 45.8 |
| Non-OECD Demand | 38.1 | 1.0 | 39.1 | 2.0 | 41.1 | 1.2 | 42.4 | 1.2 | 43.5 | 1.1 | 44.7 |
| **Total Demand** | **86.5** | **-1.0** | **85.4** | **2.6** | **88.1** | **0.9** | **88.9** | **0.7** | **89.6** | **0.8** | **90.4** |
| Non-OPEC Supply | 49.2 | 0.6 | 49.8 | 1.0 | 50.8 | 0.1 | 50.9 | 0.4 | 51.3 | 0.7 | 52.1 |
| OPEC NGL's and non-conventional oil | 4.5 | 0.4 | 4.9 | 0.5 | 5.4 | 0.4 | 5.8 | 0.4 | 6.2 | 0.3 | 6.5 |
| Global Biofuels | 1.4 | 0.2 | 1.6 | 0.2 | 1.8 | 0.0 | 1.9 | 0.0 | 1.9 | 0.1 | 2.0 |
| **Total Non-OPEC supply** | **55.1** | **1.2** | **56.3** | **1.7** | **58.0** | **0.5** | **58.5** | **0.9** | **59.4** | **1.1** | **60.6** |
| **Call on OPEC crude (and stocks)** | **31.3** | **-2.2** | **29.1** | **0.9** | **30.0** | **0.3** | **30.4** | **-0.2** | **30.2** | **-0.3** | **29.9** |
| OPEC Crude Oil Supply (Last known number dragged fwd) | 31.6 | -2.5 | 29.1 | 0.1 | 29.2 | 0.6 | 29.9 | 1.6 | 31.4 | -0.3 | 31.2 |
| **Implied World Oil Stock Change** | **0.3** | | **0.0** | | **-0.8** | | **-0.5** | | **1.3** | | **1.3** |

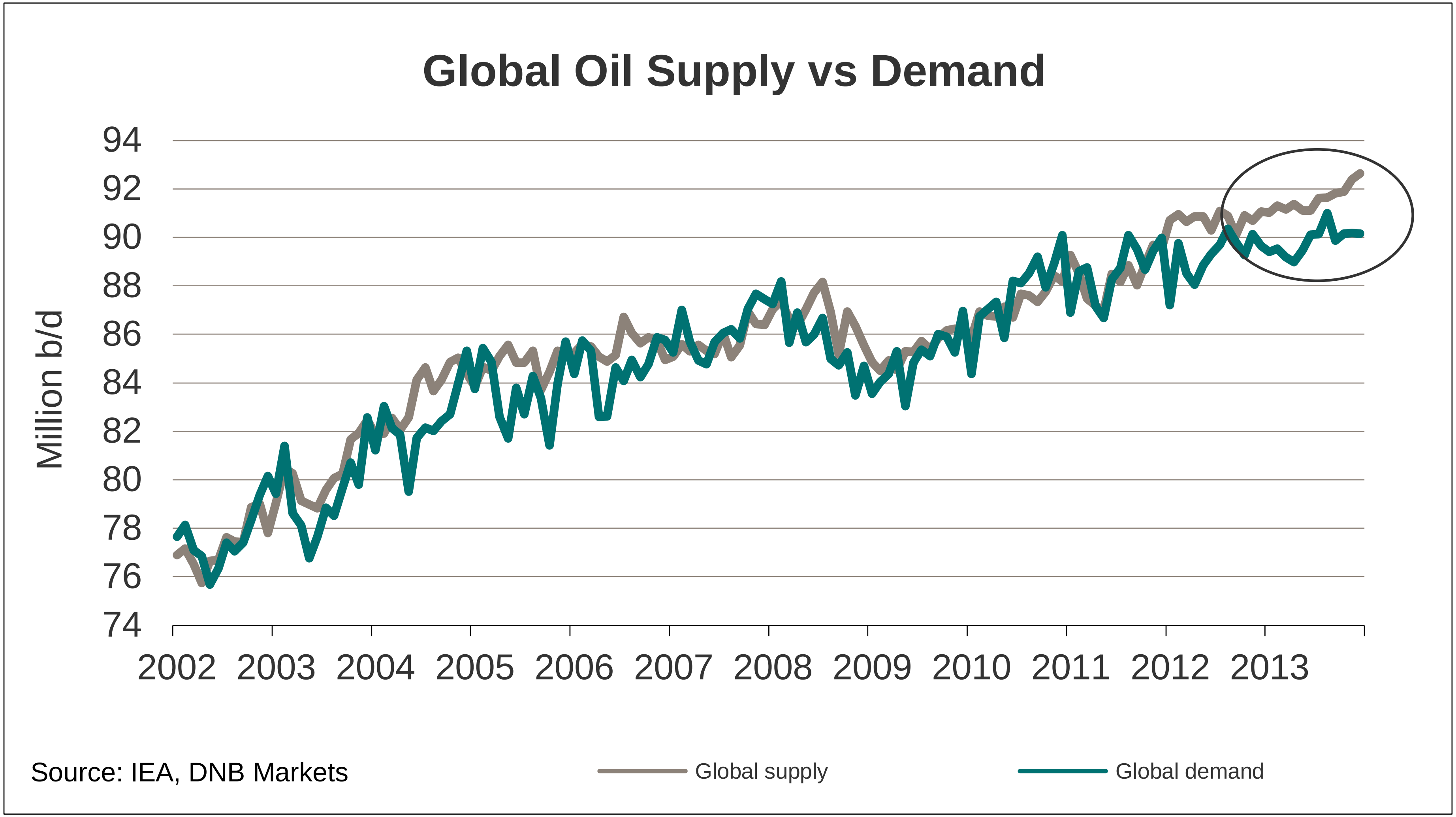
| OPEC World Oil Supply-Demand Balance (Nov 2012): | 2008 | Change | 2009 | Change | 2010 | Change | 2011 | Change | 2012 | Change | 2013 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| OECD Demand | 47.6 | -1.9 | 45.7 | 0.6 | 46.3 | -0.4 | 45.9 | -0.4 | 45.5 | -0.2 | 45.3 |
| Non-OECD Demand | 38.5 | 0.6 | 39.1 | 1.8 | 40.9 | 1.2 | 42.1 | 1.2 | 43.3 | 1.0 | 44.3 |
| **Total Demand** | **86.1** | **-1.3** | **84.8** | **2.4** | **87.2** | **0.8** | **88.0** | **0.8** | **88.8** | **0.8** | **89.6** |
| Non-OPEC Supply (Incl all Biofuel) | 50.4 | 0.7 | 51.1 | 1.3 | 52.4 | 0.1 | 52.5 | 0.4 | 52.9 | 1.0 | 53.9 |
| OPEC NGL's and non-conventional oil | 4.1 | 0.2 | 4.3 | 0.7 | 5.0 | 0.4 | 5.4 | 0.4 | 5.8 | 0.2 | 6.0 |
| **Total Non-OPEC supply** | **54.5** | **0.9** | **55.4** | **2.0** | **57.4** | **0.5** | **57.9** | **0.8** | **58.7** | **1.2** | **59.9** |
| **Call on OPEC crude (and stocks)** | **31.6** | **-2.2** | **29.4** | **0.4** | **29.8** | **0.3** | **30.1** | **0.0** | **30.1** | **-0.4** | **29.7** |
| OPEC Crude Oil Supply (Last known number dragged fwd) | 31.2 | -2.5 | 28.7 | | 29.2 | | 29.9 | | 31.4 | | 31.2 |
| **Implied World Oil Stock Change** | **-0.4** | | **-0.7** | | **-0.6** | | **-0.2** | | **1.3** | | **1.5** |

| EIA World Oil Supply-Demand balance (Nov 2012): | 2008 | Change | 2009 | Change | 2010 | Change | 2011 | Change | 2012 | Change | 2013 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| OECD Demand | 47.6 | -2.2 | 45.4 | 0.7 | 46.1 | -0.3 | 45.8 | -0.4 | 45.4 | -0.2 | 45.2 |
| Non-OECD Demand | 38.2 | 0.7 | 38.9 | 2.1 | 41.0 | 1.5 | 42.5 | 1.2 | 43.7 | 1.1 | 44.8 |
| **Total Demand** | **85.8** | **-1.5** | **84.3** | **2.7** | **87.1** | **1.2** | **88.3** | **0.8** | **89.1** | **0.9** | **89.9** |
| Non-OPEC Supply (Incl all Biofuel) | 49.7 | 0.8 | 50.5 | 1.3 | 51.8 | 0.2 | 51.9 | 0.5 | 52.4 | 1.3 | 53.7 |
| OPEC NGL's and non-conventional oil | 4.5 | 0.3 | 4.8 | 0.8 | 5.5 | -0.3 | 5.3 | 0.3 | 5.6 | 0.2 | 5.8 |
| **Total Non-OPEC supply** | **54.1** | **1.1** | **55.2** | **2.1** | **57.3** | **-0.1** | **57.2** | **0.8** | **58.0** | **1.5** | **59.5** |
| **Call on OPEC crude (and stocks)** | **31.7** | **-2.6** | **29.1** | **0.7** | **29.8** | **1.3** | **31.1** | **0.0** | **31.1** | **-0.6** | **30.5** |
| OPEC Crude Oil Supply (Last known number dragged fwd) | 31.3 | -2.2 | 29.1 | 0.1 | 29.2 | 0.6 | 29.9 | 1.6 | 31.4 | -0.3 | 31.2 |
| **Implied World Oil Stock Change** | **-0.4** | | **0.0** | | **-0.5** | | **-1.2** | | **0.4** | | **0.7** |



Torbjørn Kjus – torbjorn.kjus@dnb.no – Telephone: +47 22 01 78 23

# Oversupplied Market In 2013 If OPEC (Saudi) Do Not Cut




DNB

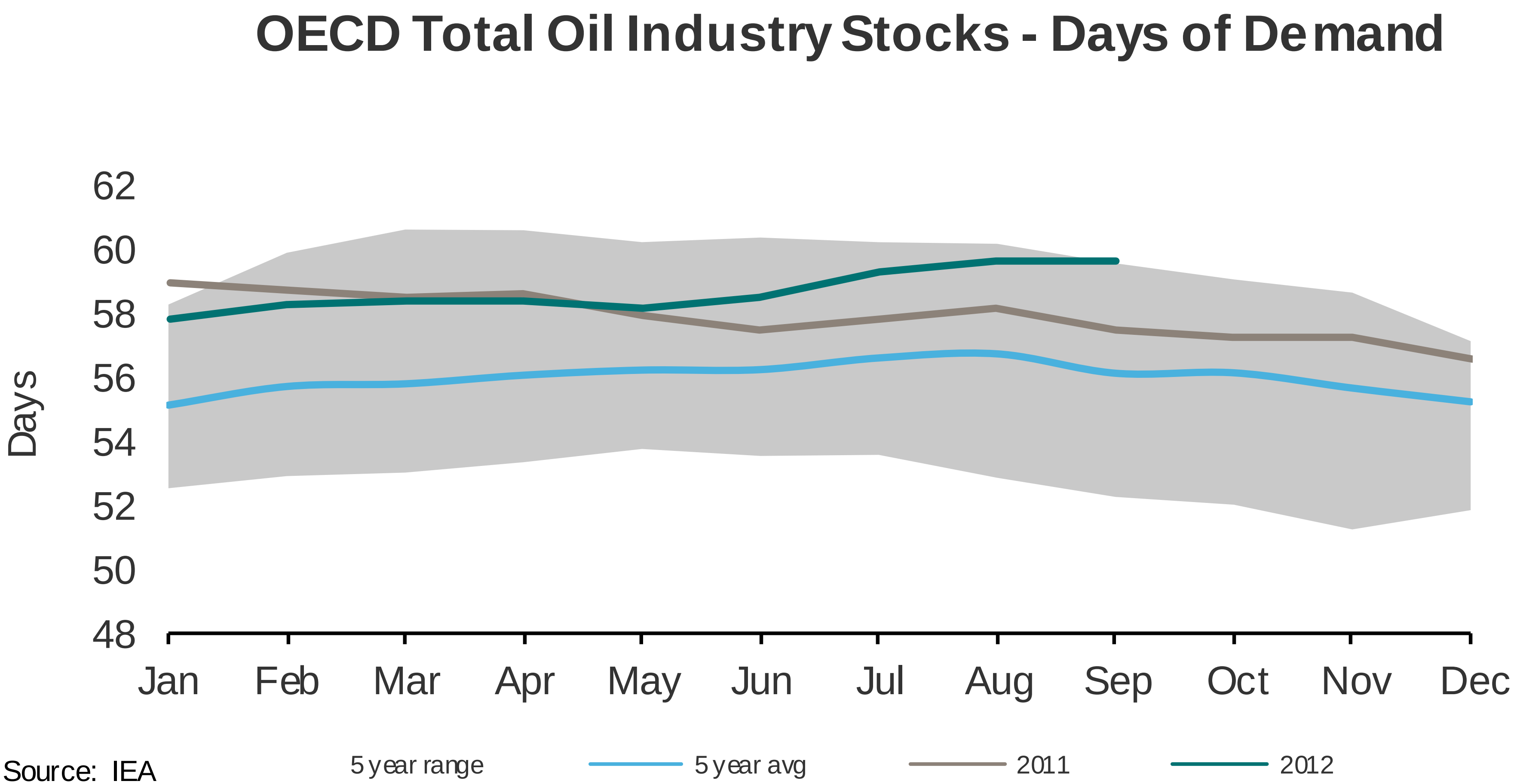
MARKETS



Torbjørn Kjus – torbjorn.kjus@dnb.no – Telephone: +47 22 01 78 23

# OECD Oil Stocks Are Very High In Days Of Demand Coverage

- Refined products stocks are on the low side when measured in barrels, while crude stocks are on the high side.

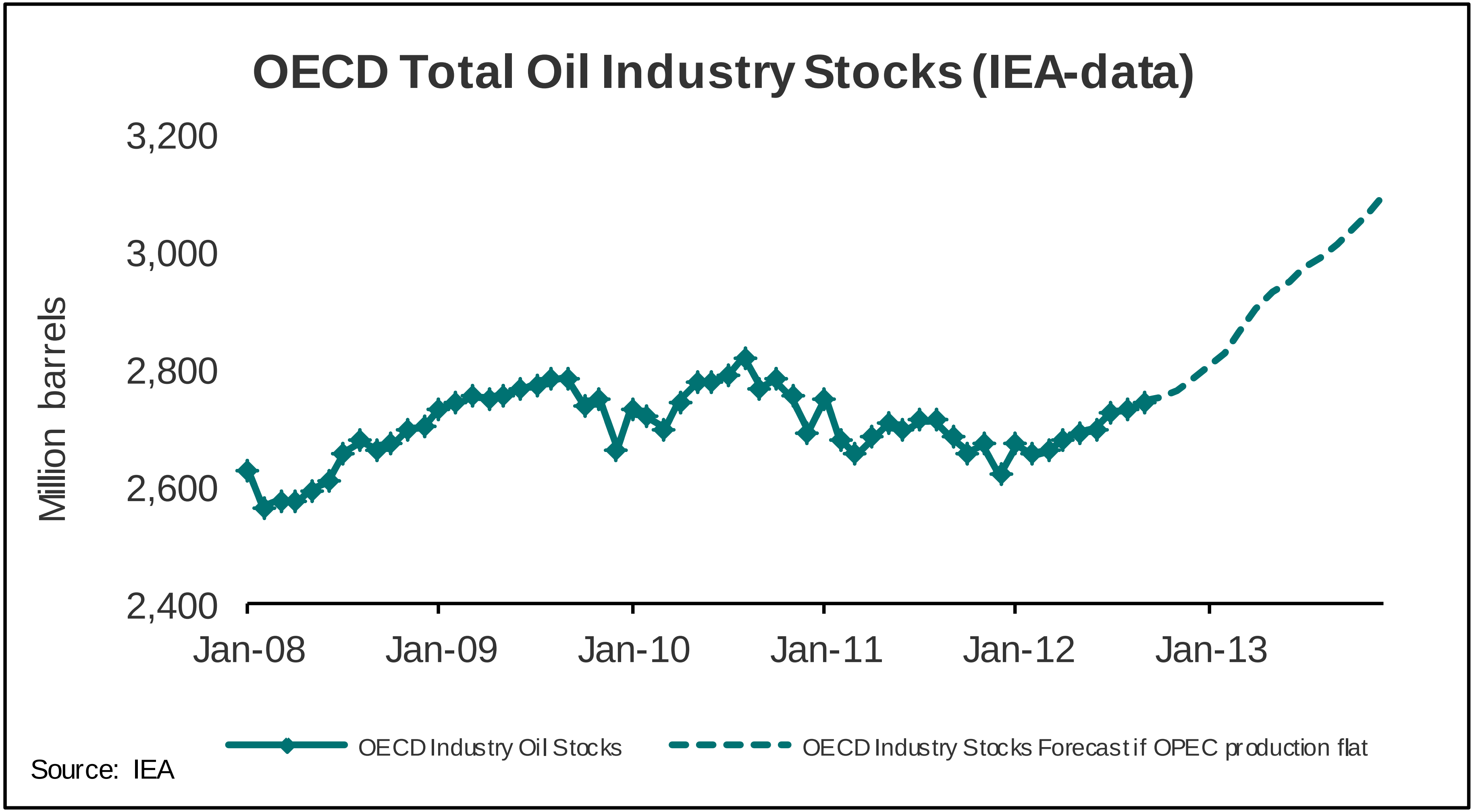



Source: IEA

Torbjørn Kjus – torbjorn.kjus@dnb.no – Telephone: +47 22 01 78 23

# And Stocks Will Continue To Grow Unless OPEC Cuts Output

- The Forward estimate assumes OECD share of global stock builds will equal the share of global oil demand (about 50%)




DNB MARKETS



Torbjørn Kjus – torbjorn.kjus@dnb.no – Telephone: +47 22 01 78 23

# DNB Global Oil Demand – Historicals & Assumptions

| Demand change in Million b/d | Change 2008 | Change 2009 | Change 2010 | Change 2011 | YoY Last 3 mts | 2012 YTD Chg: | Change 2012 | Change 2013 |
|---|---|---|---|---|---|---|---|---|
| North America (Canada, Mexico) | -70 | -163 | 115 | 84 | -83 | -8 | -25 | -13 |
| US | -1,188 | -725 | 407 | -229 | -242 | -327 | -290 | -100 |
| Europe | -93 | -755 | -23 | -322 | -751 | -492 | -494 | -404 |
| Australia, New Zealand, Japan, Korea | -311 | -365 | 83 | 28 | 155 | 358 | 269 | -20 |
| **Total OECD** | **-1,662** | **-2,008** | **583** | **-439** | **-921** | **-469** | **-540** | **-538** |
| | | | | | | | | |
| Europe/Africa Med & FSU | 311 | -178 | 156 | 138 | 156 | 191 | 179 | 151 |
| Middle East AG excl. Iran and Saudi | 154 | 152 | 128 | -22 | 41 | 80 | 76 | 67 |
| Iran | 45 | 59 | -177 | -38 | -65 | -7 | -14 | -54 |
| Saudi Arabia | 135 | 223 | 221 | 115 | 199 | 158 | 151 | 154 |
| Asia Pacific/East Africa excl. China and India | -171 | 387 | 392 | 54 | 197 | 157 | 165 | 206 |
| China | 328 | 450 | 956 | 523 | 407 | 254 | 271 | 366 |
| India | 121 | 36 | 224 | 140 | 144 | 141 | 137 | 108 |
| West Africa | 79 | 4 | -110 | 140 | 50 | 51 | 50 | 37 |
| Latin America (excl. Mexico) | 316 | 65 | 349 | 256 | 183 | 191 | 177 | 132 |
| **Total Non-OECD** | **1,317** | **1,195** | **2,139** | **1,306** | **1,312** | **1,215** | **1,191** | **1,168** |
| | | | | | | | | |
| North America | -1,257 | -888 | 523 | -146 | -324 | -335 | -314 | -113 |
| Europe/Africa Med & FSU | 219 | -934 | 132 | -184 | -595 | -301 | -316 | -253 |
| Middle East AG/Asia Pacific/East Africa | 299 | 940 | 1,827 | 801 | 1,078 | 1,140 | 1,055 | 827 |
| Middle East AG | 333 | 433 | 172 | 56 | 176 | 231 | 213 | 167 |
| Asia Pacific/East Africa | -34 | 507 | 1,656 | 745 | 902 | 909 | 842 | 660 |
| West Africa | 79 | 4 | -110 | 140 | 50 | 51 | 50 | 37 |
| Latin America (excl. Mexico) | 316 | 65 | 349 | 256 | 183 | 191 | 177 | 132 |
| **Total World** | **-345** | **-814** | **2,722** | **867** | **391** | **746** | **652** | **630** |

MARKETS



Torbjørn Kjus – torbjorn.kjus@dnb.no – Telephone: +47 22 01 78 23

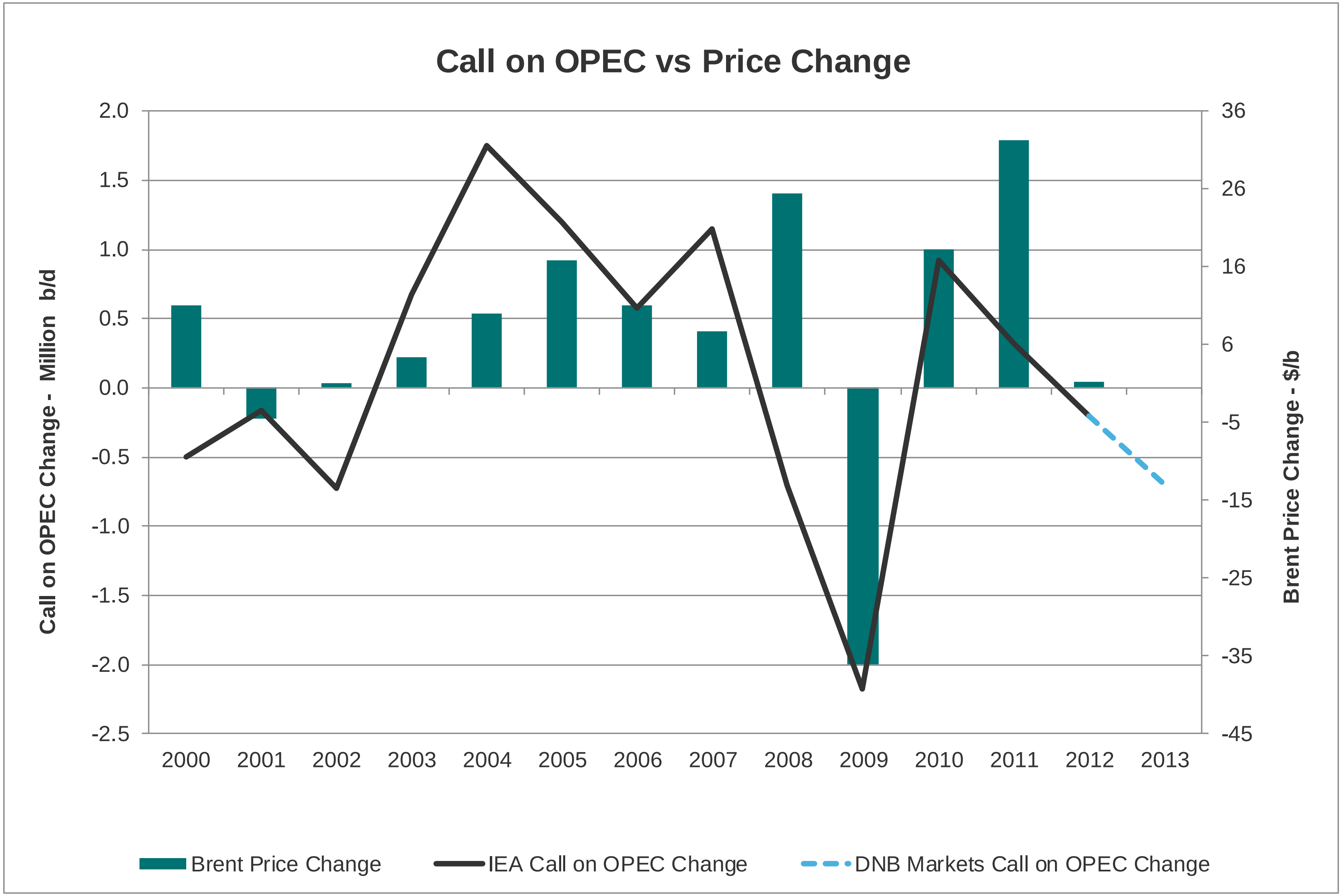
# Selected Non-OPEC Supply Historicals & Assumptions

| DNB Year on Year Non-OPEC Output | Q1-2010 | Q2-2010 | Q3-2010 | Q4-2010 | Q1-2011 | Q2-2011 | Q3-2011 | Q4-2011 | Q1-2012 | Q2-2012 | Q3-2012 | Q4-2012 | Q1-2013 | Q2-2013 | Q3-2013 | Q4-2013 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Canada | -12 | +223 | +137 | +261 | +221 | -57 | +222 | +221 | +314 | +402 | +163 | +189 | +201 | +193 | +175 | +191 |
| Mexico | -50 | -4 | +5 | -30 | -23 | -5 | -34 | -7 | -51 | -33 | +4 | -43 | -55 | -61 | -55 | -58 |
| Norway | -210 | -96 | -361 | -218 | -182 | -138 | +59 | -128 | -56 | -4 | -253 | -202 | -152 | -136 | -104 | -147 |
| United Kingdom | -124 | -183 | -61 | -125 | -245 | -229 | -272 | -230 | -163 | -138 | -117 | -187 | -115 | -101 | -73 | -100 |
| United States | +513 | +256 | +225 | +416 | +158 | +365 | +250 | +602 | +969 | +823 | +877 | +735 | +689 | +723 | +741 | +712 |
| Azerbaijan | +23 | -25 | -8 | -24 | -22 | -109 | -140 | -200 | -70 | -68 | -71 | +43 | -45 | -12 | -1 | -29 |
| Kazakhstan | +126 | +55 | +25 | +32 | +53 | +35 | -24 | -23 | -38 | -21 | -25 | -66 | +17 | +28 | +21 | +34 |
| Russia | +339 | +271 | +182 | +180 | +141 | +137 | +148 | +147 | +174 | +112 | +114 | +42 | -12 | +3 | +8 | -8 |
| Ghana | +0 | +0 | +0 | +3 | +50 | +78 | +82 | +70 | +20 | -7 | -7 | -4 | -5 | -5 | -5 | -5 |
| South Sudan | +0 | +0 | +0 | +0 | +0 | +0 | +347 | +337 | +124 | +0 | -347 | -337 | -100 | +110 | +200 | +290 |
| Sudan | +23 | -23 | -19 | -22 | -10 | -4 | -362 | -354 | -359 | -397 | -35 | -6 | -2 | +2 | +1 | -2 |
| Malaysia | +16 | +12 | -13 | -5 | -50 | -112 | -56 | -35 | +1 | +31 | +5 | +5 | +3 | +12 | +5 | +9 |
| China | +221 | +224 | +276 | +371 | +235 | +124 | -72 | -191 | -21 | -72 | +123 | +160 | +56 | +97 | +78 | +93 |
| Brazil | +104 | +140 | +100 | +110 | +81 | +28 | +35 | +78 | +82 | -54 | -91 | -59 | -20 | +27 | +43 | +2 |
| Colombia | +119 | +125 | +123 | +95 | +108 | +146 | +135 | +132 | +66 | +18 | +10 | +11 | +12 | +11 | +13 | +10 |
| Oman | +69 | +60 | +35 | +46 | +33 | +16 | +35 | +13 | +2 | +38 | +35 | +30 | +26 | +33 | +25 | +30 |
| Syria | -16 | -16 | -16 | -16 | +0 | -2 | -38 | -191 | -214 | -221 | -182 | -54 | -17 | +1 | -1 | -0 |
| Yemen | -18 | -16 | -14 | -13 | +4 | -99 | -48 | -105 | -159 | -11 | -35 | -5 | -1 | -22 | -18 | -16 |
| Global Biofuels | +249 | +320 | +351 | +38 | +95 | -28 | +40 | +31 | +65 | -62 | -41 | +103 | +43 | +157 | +216 | +168 |
| **Non-OPEC (including processing gains)** | **+1,249** | **+1,416** | **+1,063** | **+1,112** | **+617** | **-194** | **+55** | **+41** | **+621** | **+415** | **+198** | **+393** | **+614** | **+1,180** | **+1,351** | **+1,245** |

| Liquids Supply | Change 2007 | Change 2008 | Change 2009 | Change 2010 | Change 2011 | 2012 YTD Change | Change 2012 | Change 2013 |
|---|---|---|---|---|---|---|---|---|
| Canada | 114 | -72 | -26 | 152 | 152 | 282 | 267 | 190 |
| Mexico | -210 | -315 | -186 | -20 | -17 | -25 | -31 | -57 |
| Norway | -221 | -86 | -107 | -221 | -97 | -127 | -129 | -135 |
| United Kingdom | 0 | -96 | -88 | -123 | -244 | -159 | -151 | -97 |
| United States | 40 | -83 | 456 | 352 | 344 | 886 | 851 | 716 |
| Azerbaijan | 212 | 44 | 144 | -9 | -118 | -55 | -42 | -22 |
| Kazakhstan | 58 | 24 | 133 | 60 | 11 | -34 | -38 | 25 |
| Russia | 236 | -73 | 196 | 243 | 143 | 130 | 111 | -2 |
| Ghana | 0 | 0 | 0 | 1 | 70 | 2 | 1 | -5 |
| South Sudan | 0 | 0 | 0 | 0 | 171 | -101 | -140 | 125 |
| Sudan | 132 | -15 | 14 | -10 | -183 | -239 | -199 | 0 |
| Malaysia | 4 | -3 | -39 | 3 | -63 | 12 | 11 | 7 |
| China | 33 | 72 | -7 | 273 | 24 | 40 | 48 | 81 |
| Brazil | 29 | 62 | 129 | 113 | 56 | -19 | -30 | 13 |
| Colombia | 2 | 58 | 81 | 116 | 130 | 29 | 26 | 12 |
| Oman | -27 | 47 | 55 | 53 | 24 | 25 | 26 | 29 |
| Syria | -17 | 2 | -5 | -16 | -58 | -191 | -168 | -4 |
| Yemen | -46 | -26 | -9 | -15 | -62 | -59 | -52 | -14 |
| **Sum:** | **338** | **-461** | **741** | **951** | **282** | **592** | **361** | **861** |


Torbjørn Kjus – torbjorn.kjus@dnb.no – Telephone: +47 22 01 78 23

# Fundamentals (Supply vs  Do Still Matter For Oil Prices



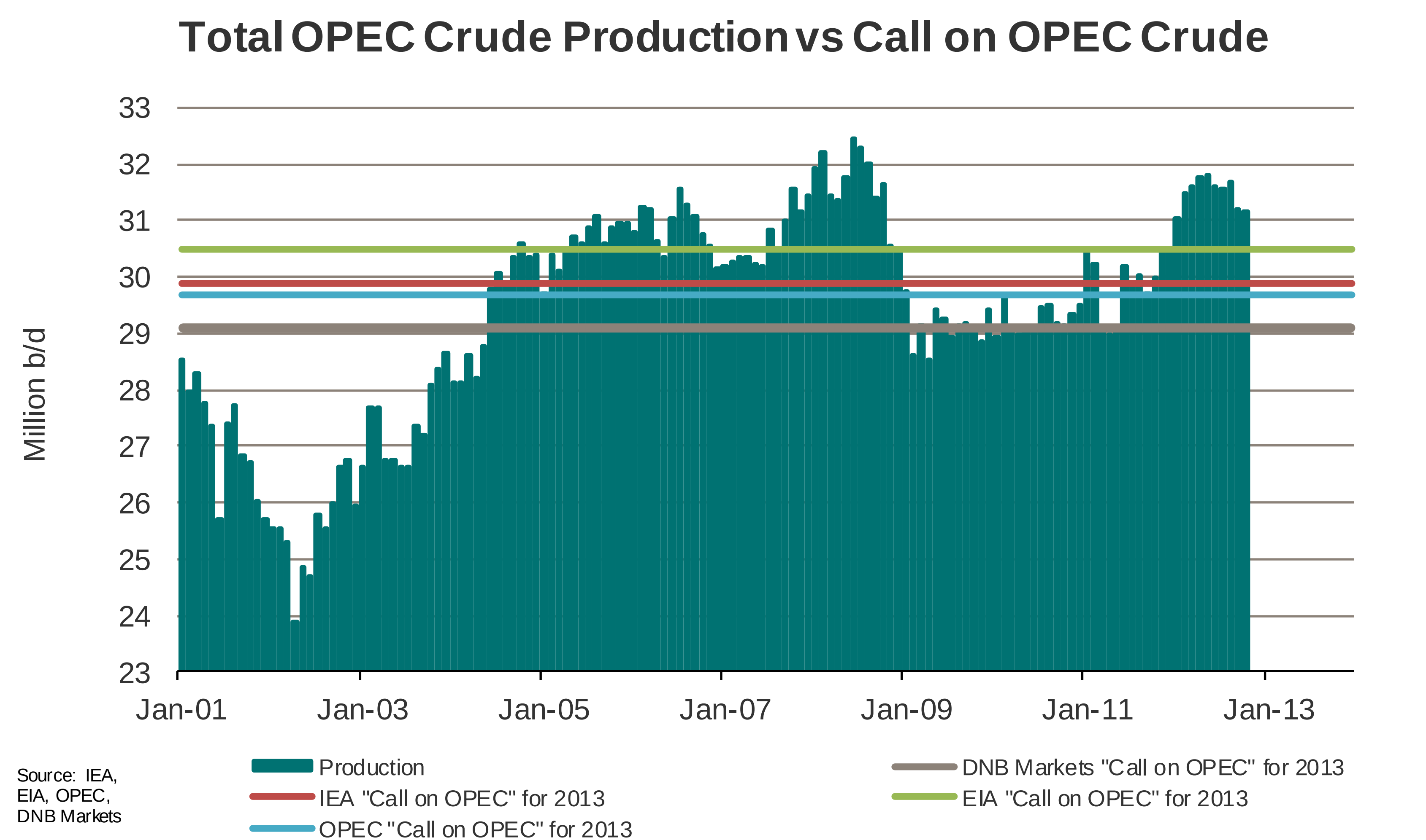

DNB

MARKETS



Torbjørn Kjus – torbjorn.kjus@dnb.no – Telephone: +47 22 01 78 23

# OPEC - Production vs "Call on OPEC" Crude




Source: IEA, EIA, OPEC, DNB Markets

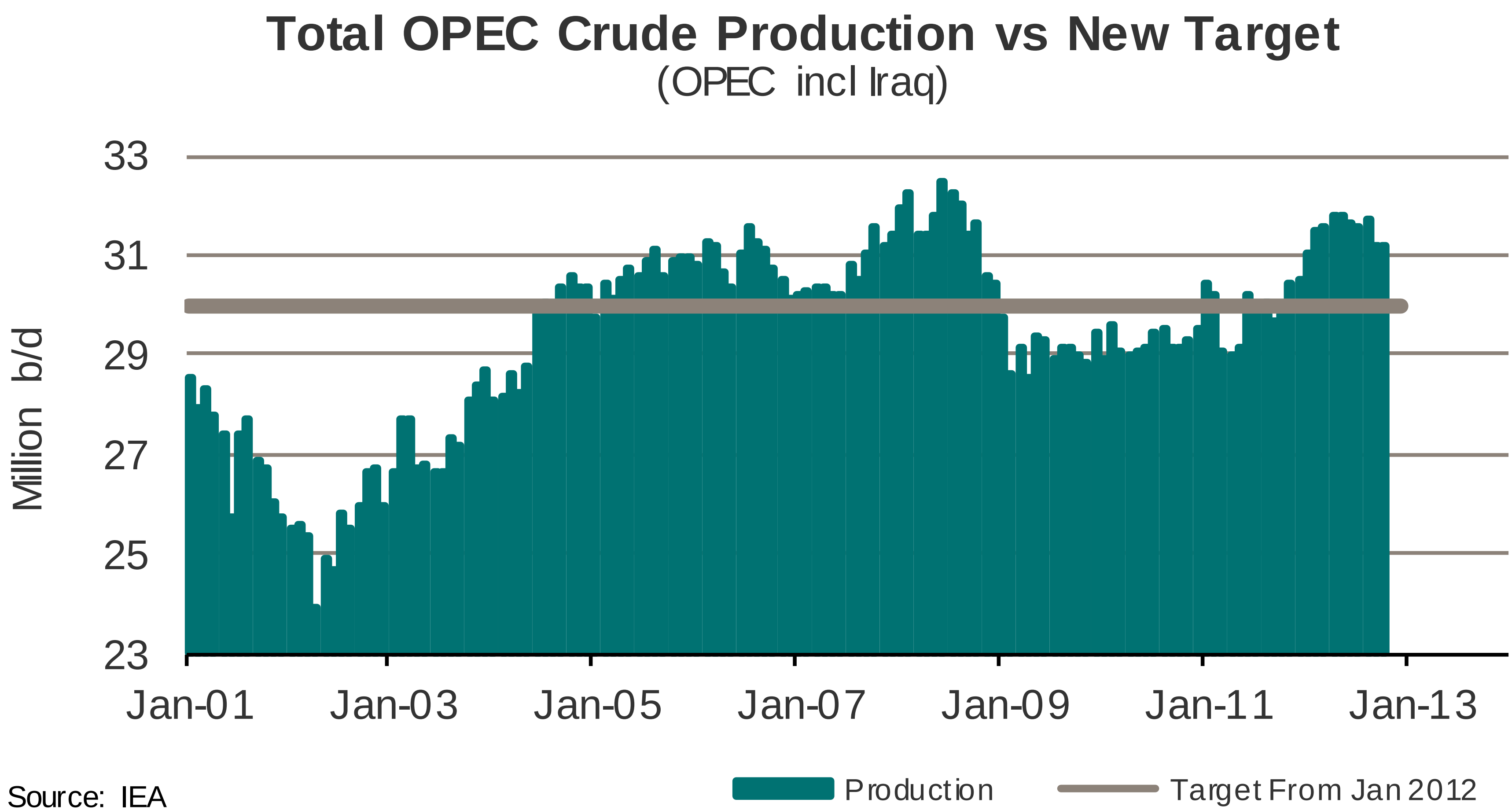
DNB

MARKETS



Torbjørn Kjus – torbjorn.kjus@dnb.no – Telephone: +47 22 01 78 23

# OPEC - Production & Target



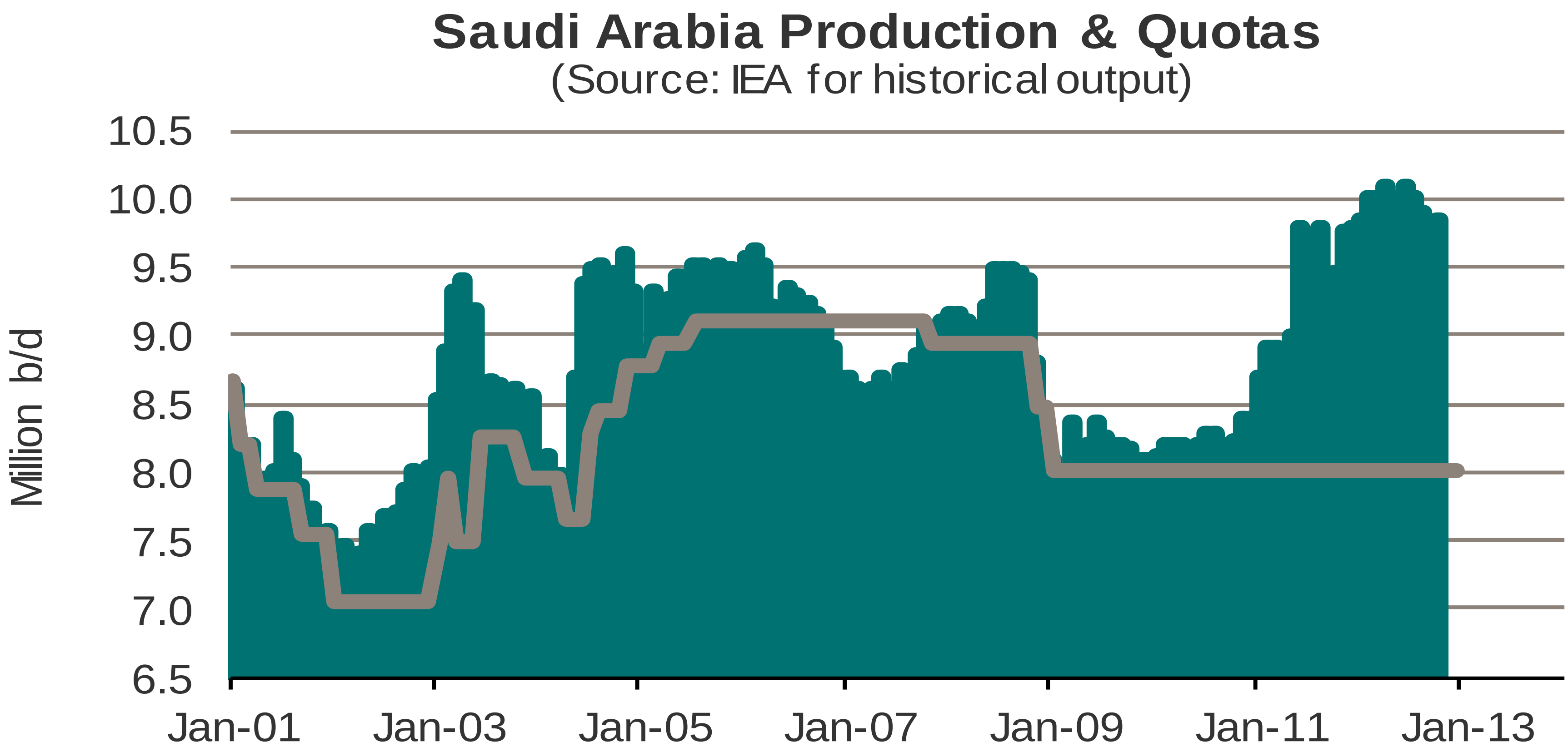

Source: IEA

MARKETS



Torbjørn Kjus – torbjorn.kjus@dnb.no – Telephone: +47 22 01 78 23

# Saudi Arabia - Production & Quotas




Source: IEA, PIRA

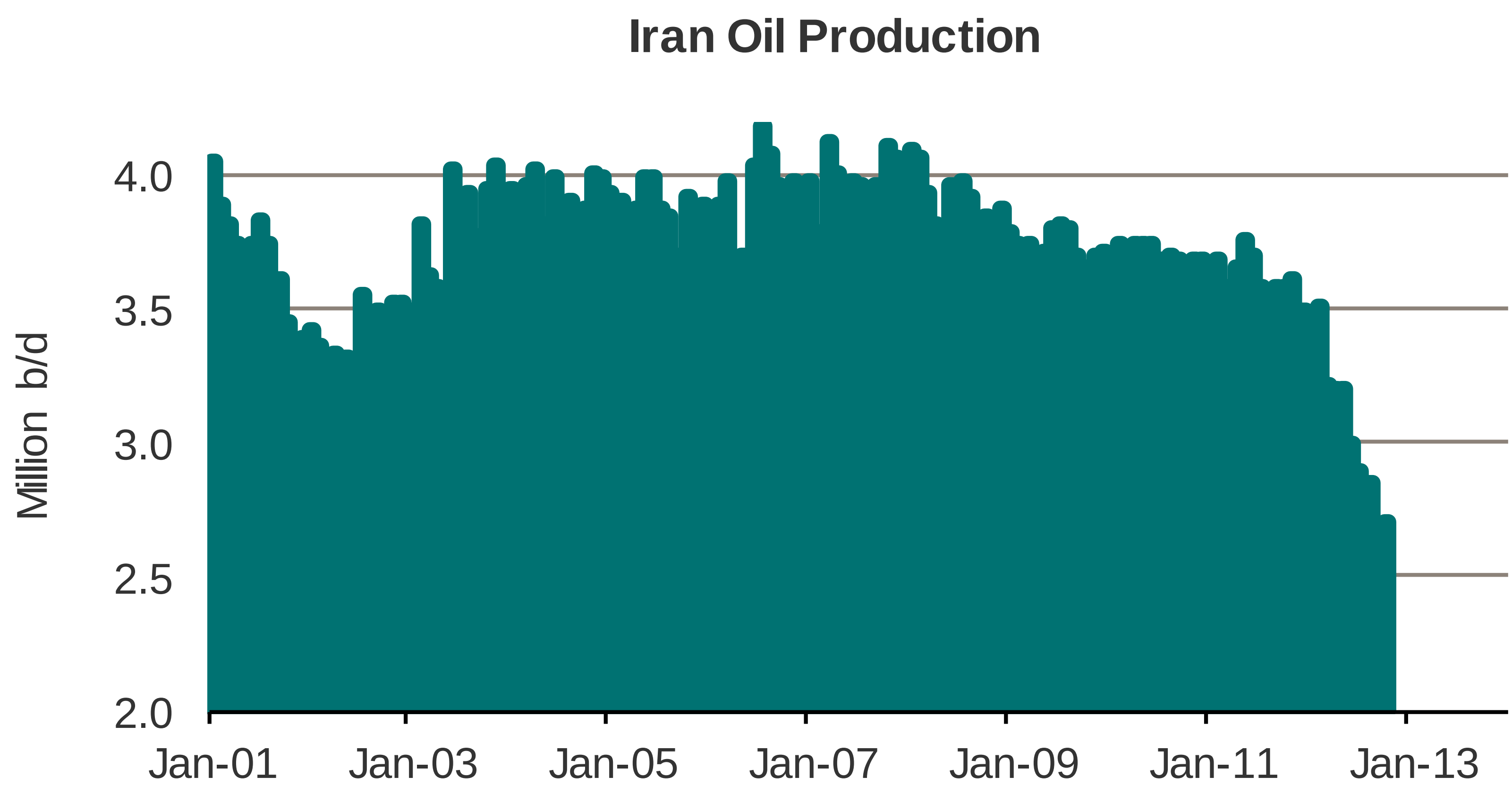
DNB MARKETS



Torbjørn Kjus – torbjorn.kjus@dnb.no – Telephone: +47 22 01 78 23

# Lost Iranian Production Will Continue To Support Prices

- Down about 1 million b/d – These barrels will probably be lost for most of 2013 as well




Source: IEA

DNB

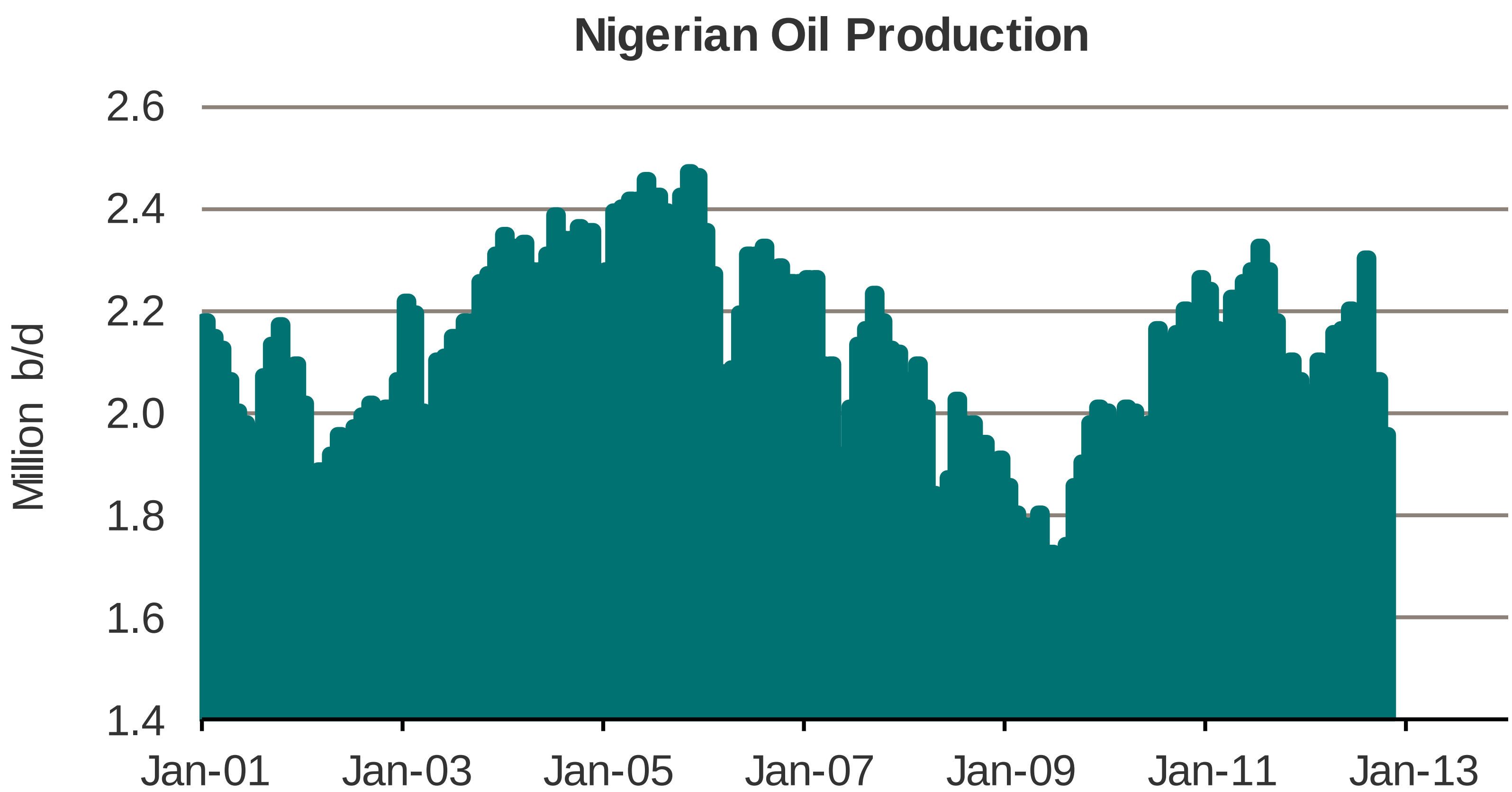
MARKETS



Torbjørn Kjus – torbjorn.kjus@dnb.no – Telephone: +47 22 01 78 23

# Nigeria Continue To Struggle With Sabotage & Outages

- But the delta from current production level could very well be positive in 2013




Source: IEA

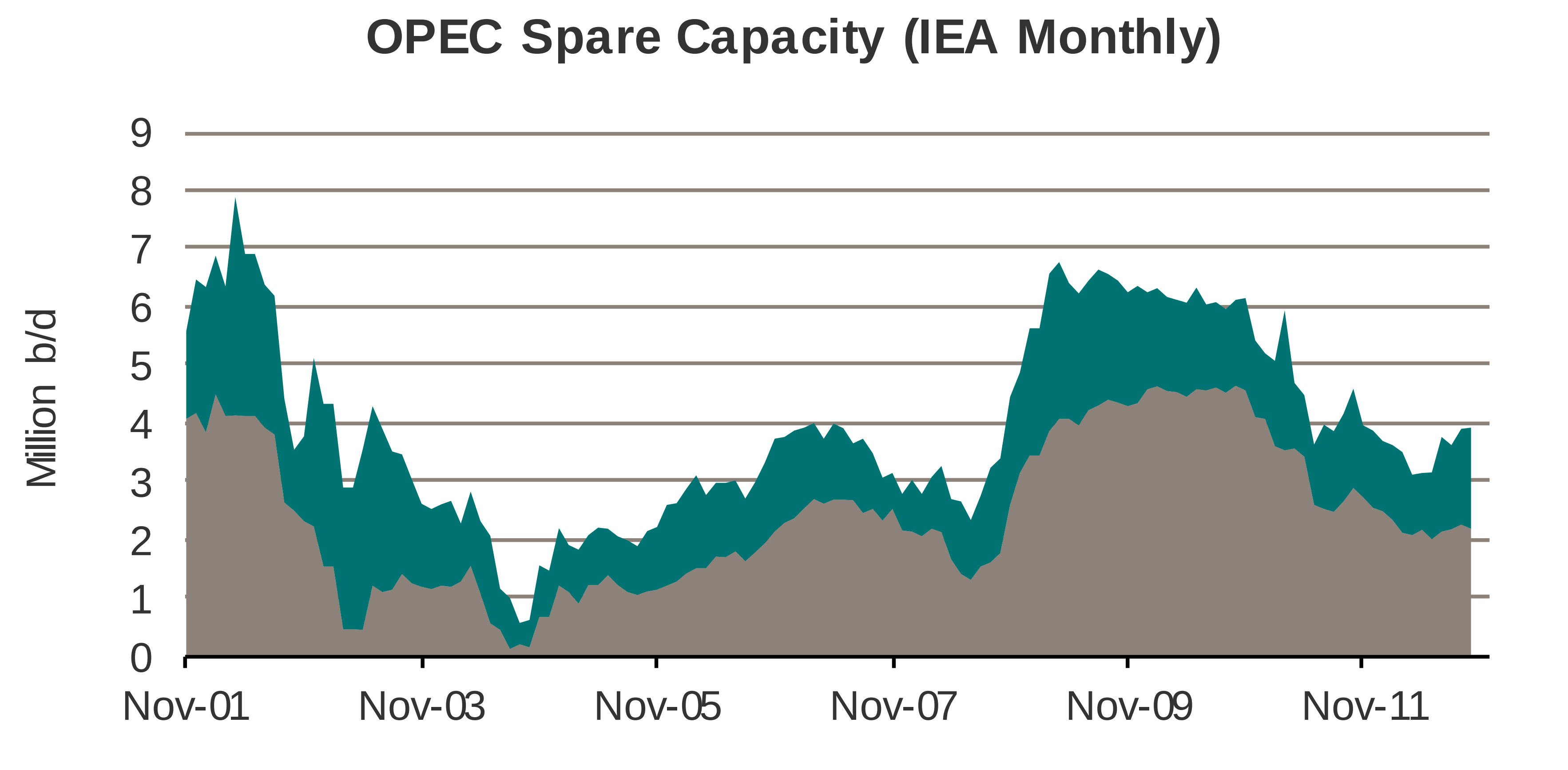
DNB MARKETS



Torbjørn Kjus – torbjorn.kjus@dnb.no – Telephone: +47 22 01 78 23

# OPEC Spare Capacity Reduced Since 2009

- This is the flip side of the increased Saudi production




Source: IEA, DNB Markets

Source: IEA Monthly Oil Market Reports

Torbjørn Kjus – torbjorn.kjus@dnb.no – Telephone: +47 22 01 78 23

# The Arab Spring Still Alive And Kicking

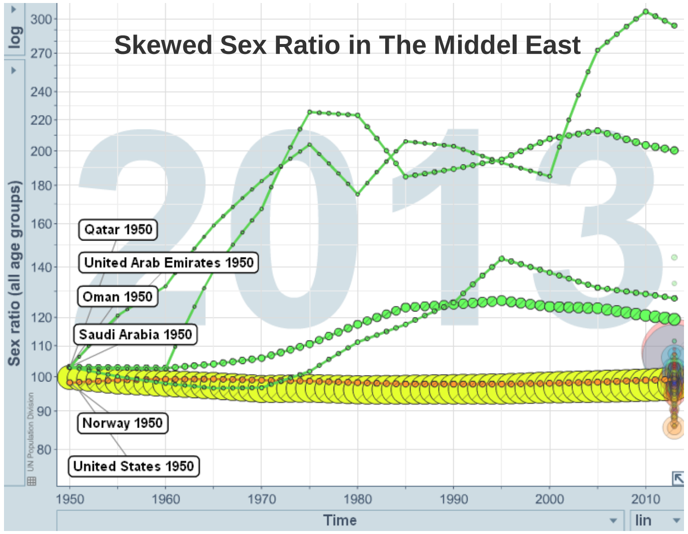
- MENA is still full of young, unemployed, males with access to information (the Sunni-Shiiate conflict lures in the back as well)

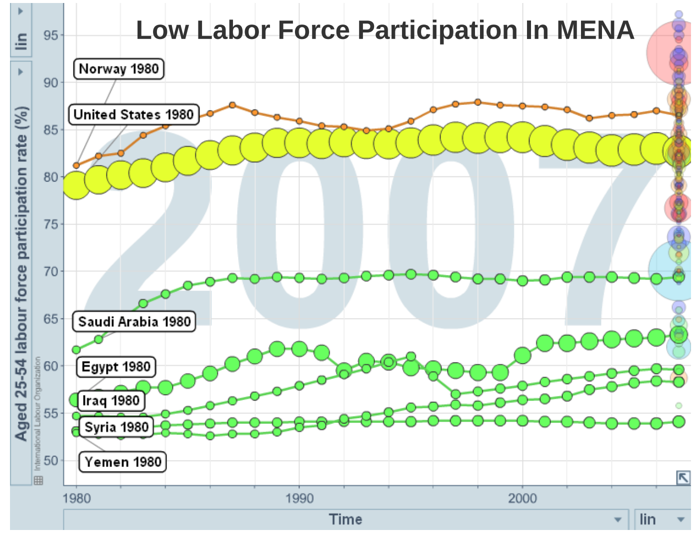


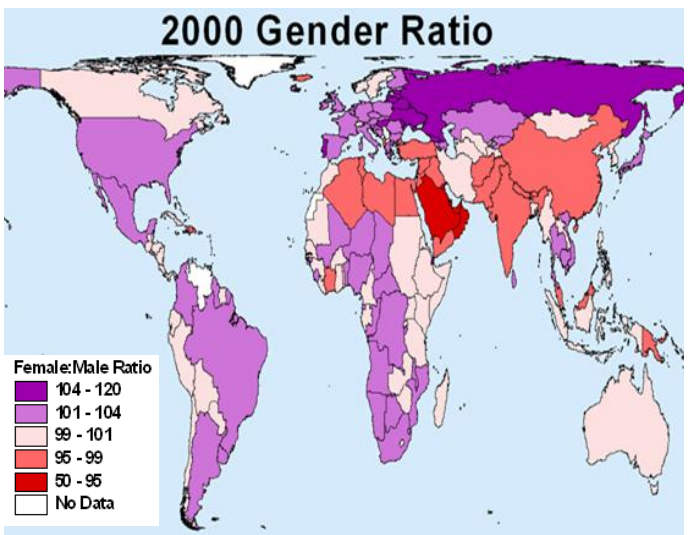

Torbjørn Kjus – torbjorn.kjus@dnb.no – Telephone: +47 22 01 78 23

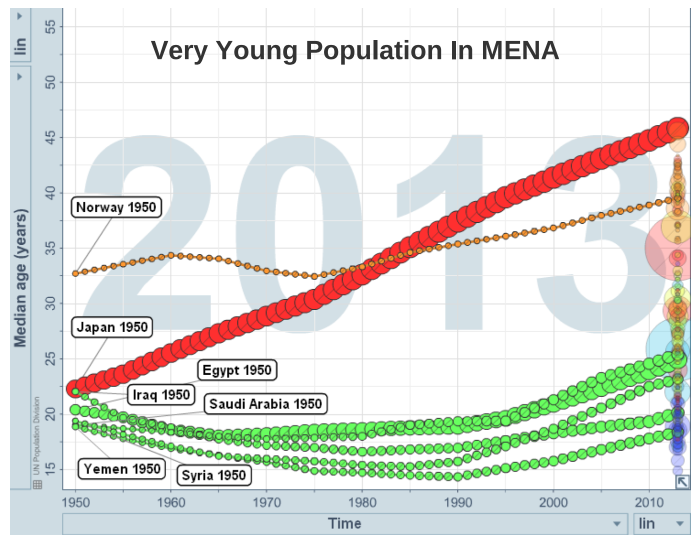
# MENA: Sex Ratio – Unemployment - Young Population

- A recipe for social unrest




Source: International Labor Organization, UN Population Division, Gapminder

# The Saudi Royal Family

**Abdul Aziz (Ibn Saud)**
- King: 1902-1953
- Founded Saudi Arabia in 1932
- 22 wives (4 at a time)
- 45 sons of which 5 have been kings

**King Saud**
- King: 1953-1964
- Forced out

**King Faisal**
- King: 1964-1975
- Killed

**King Khalid**
- King: 1975-1982
- Heart Attack

**King Fahad**
- King: 1982-2005
- Stroke

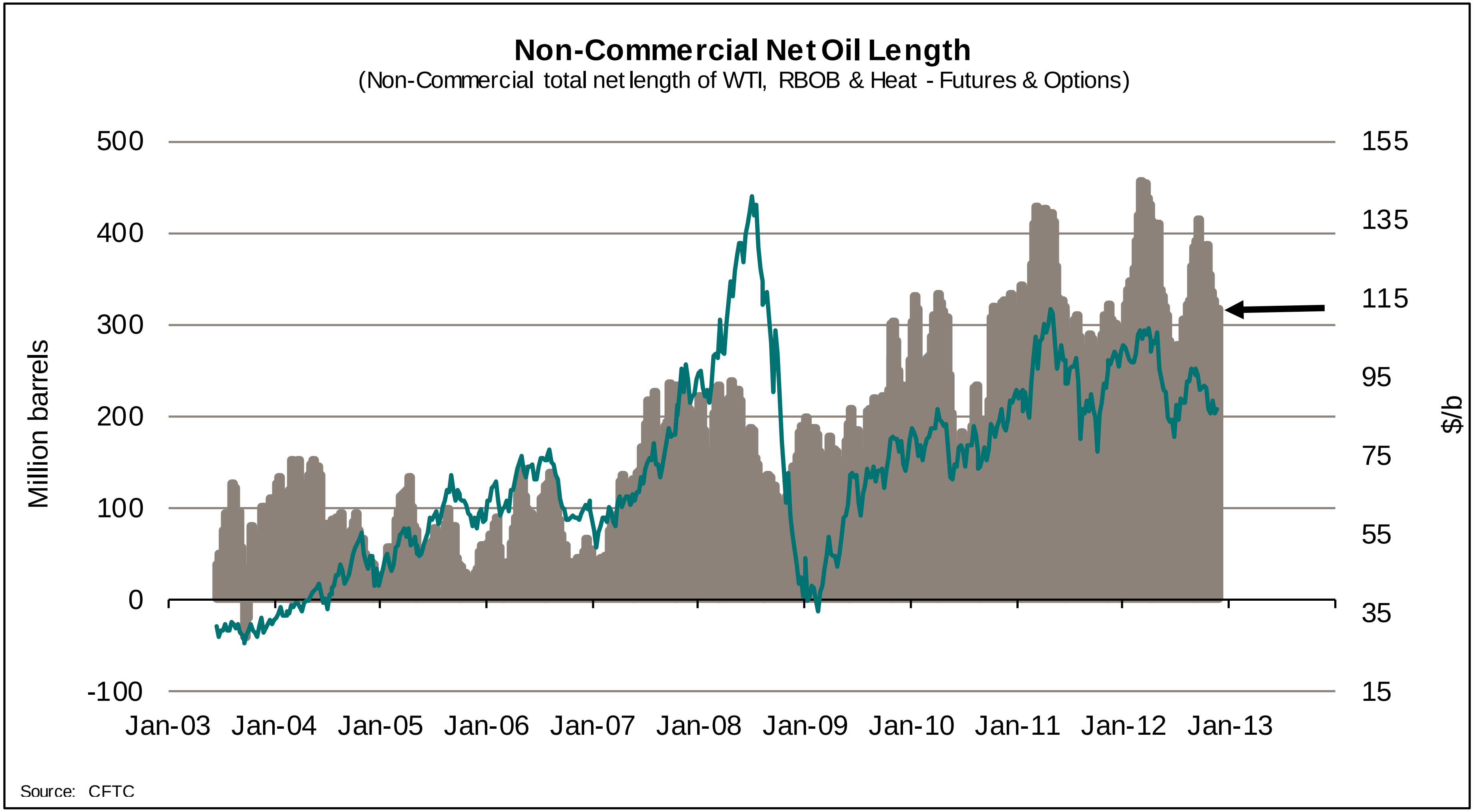
**King Abdullah (88)**
- King: 2005-
- Regent since 1995
- Unifying and popular
- 6 sons

**Crown Price Sultan (80)**
- Died 23.10.2011

**Crown Price Naif (79)**
- Ultra conservative
- Died 16.06.2012

**New Crown Price Salman (76)**
- 25th son of Ibn Saud
- Defence Minister
- Well regarded
- Trusted mediator
- Had a stroke in 2010

# Financial Oil Positions NYMEX (WTI, RBOB, Heating Oil)

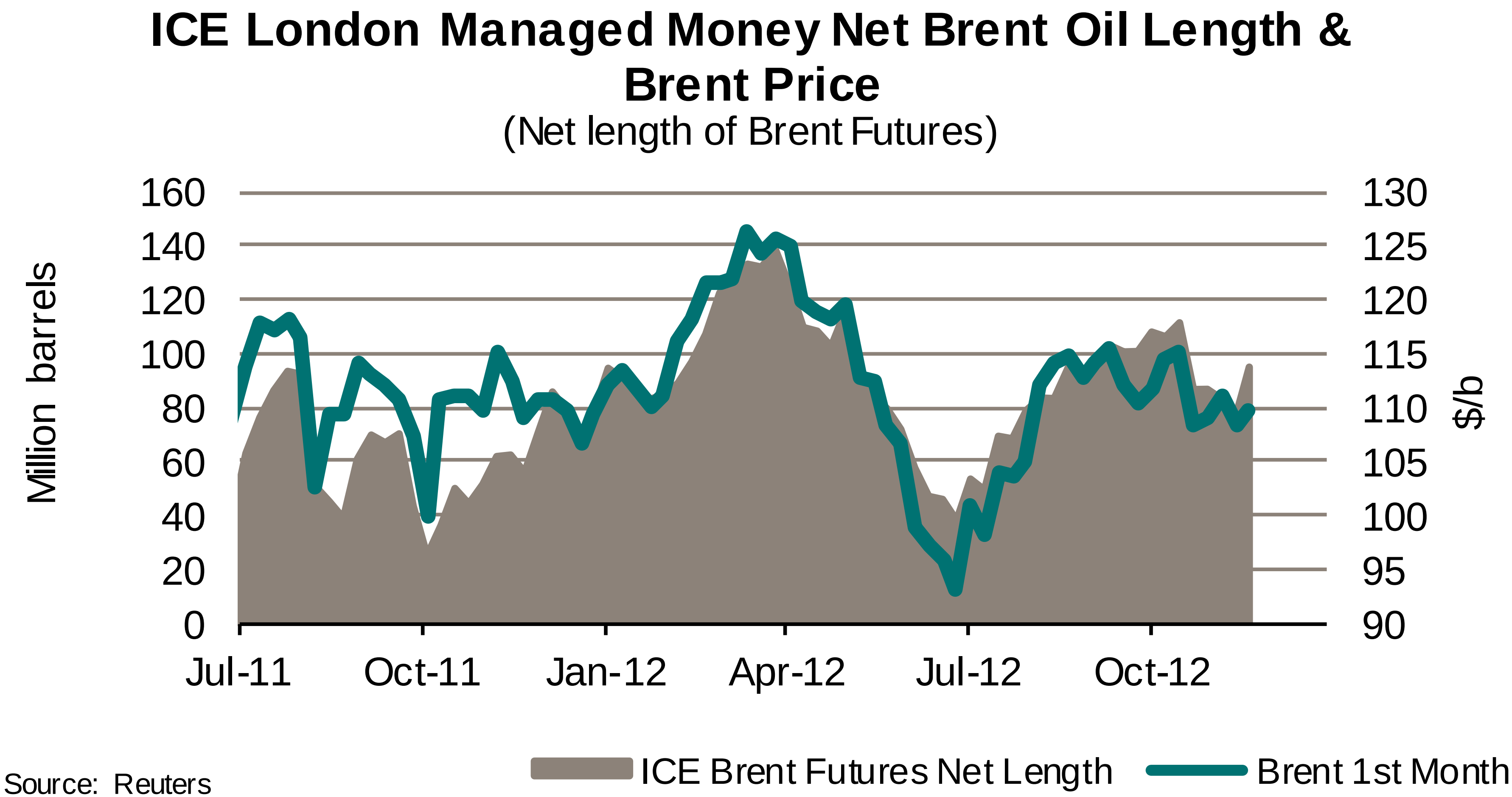






Torbjørn Kjus – torbjorn.kjus@dnb.no – Telephone: +47 22 01 78 23

# Net 'Money Managers' Exposure on ICE Brent




Source: Reuters

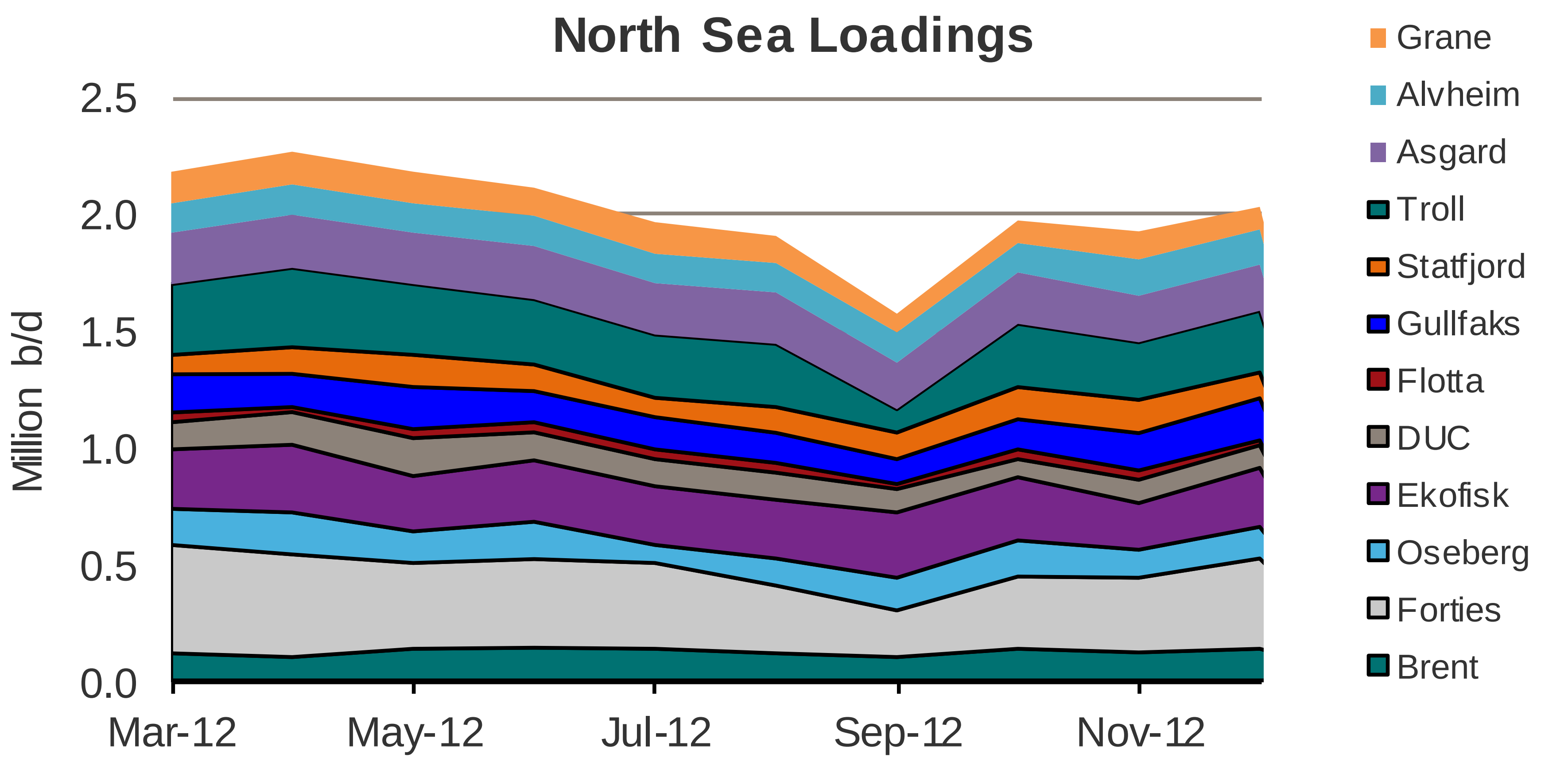
DNB MARKETS



Torbjørn Kjus – torbjorn.kjus@dnb.no – Telephone: +47 22 01 78 23

# North Sea Loading Program

- Back from the lows of September




Source: DNB Markets, Reuters

DNB

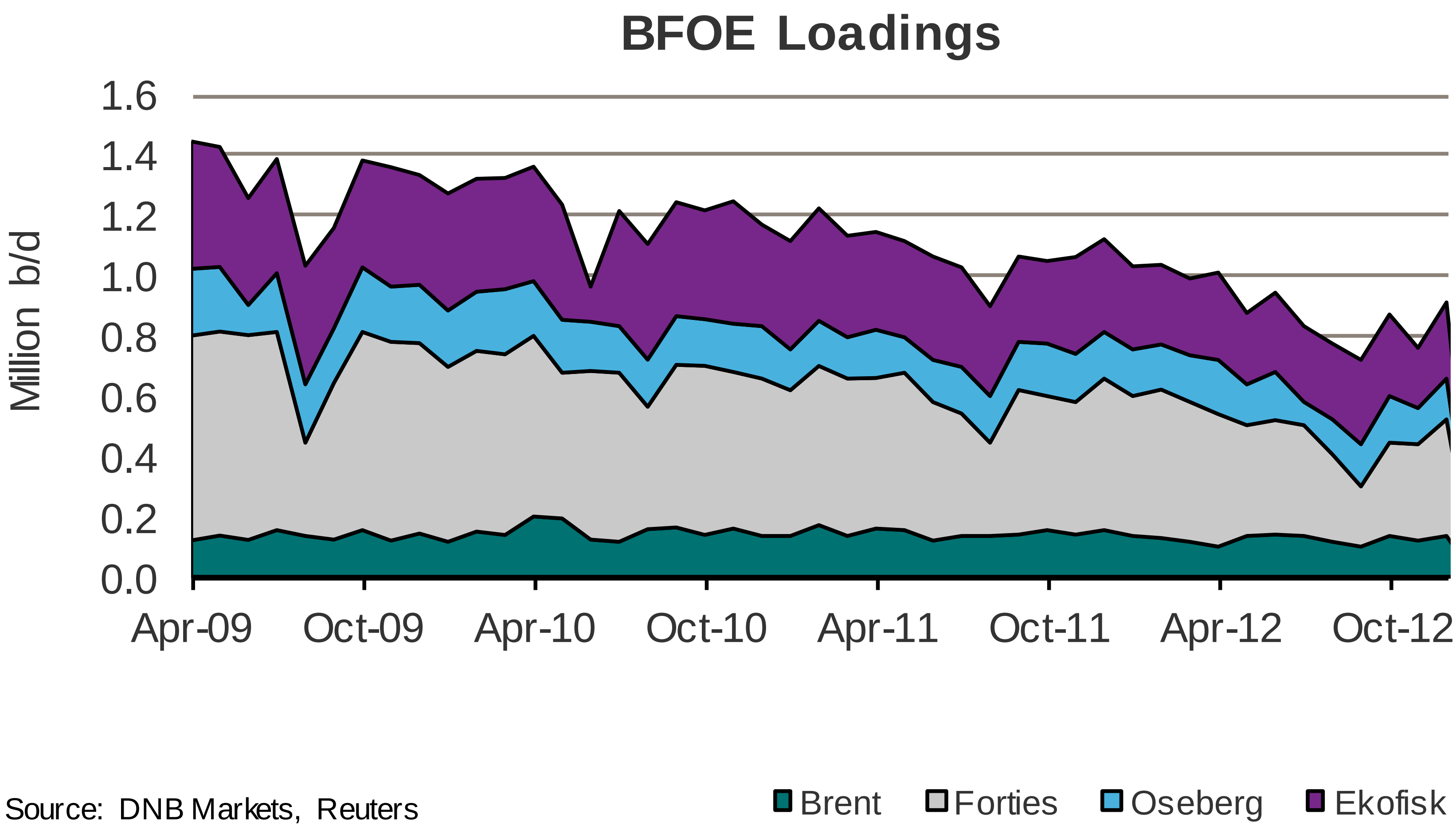
MARKETS



Torbjørn Kjus – torbjorn.kjus@dnb.no – Telephone: +47 22 01 78 23

# Brent, Forties, Oseberg  Ekofisk (BFOE) Loading Programs

- Structural production decline still on-going. In addition about 160 kbd (equals 20% of the current BFOE program) on average has left for South Korea in 2012 due to the EU free trade agreement (which gives South Korean refiners a 3% discount).




Source: DNB Markets, Reuters

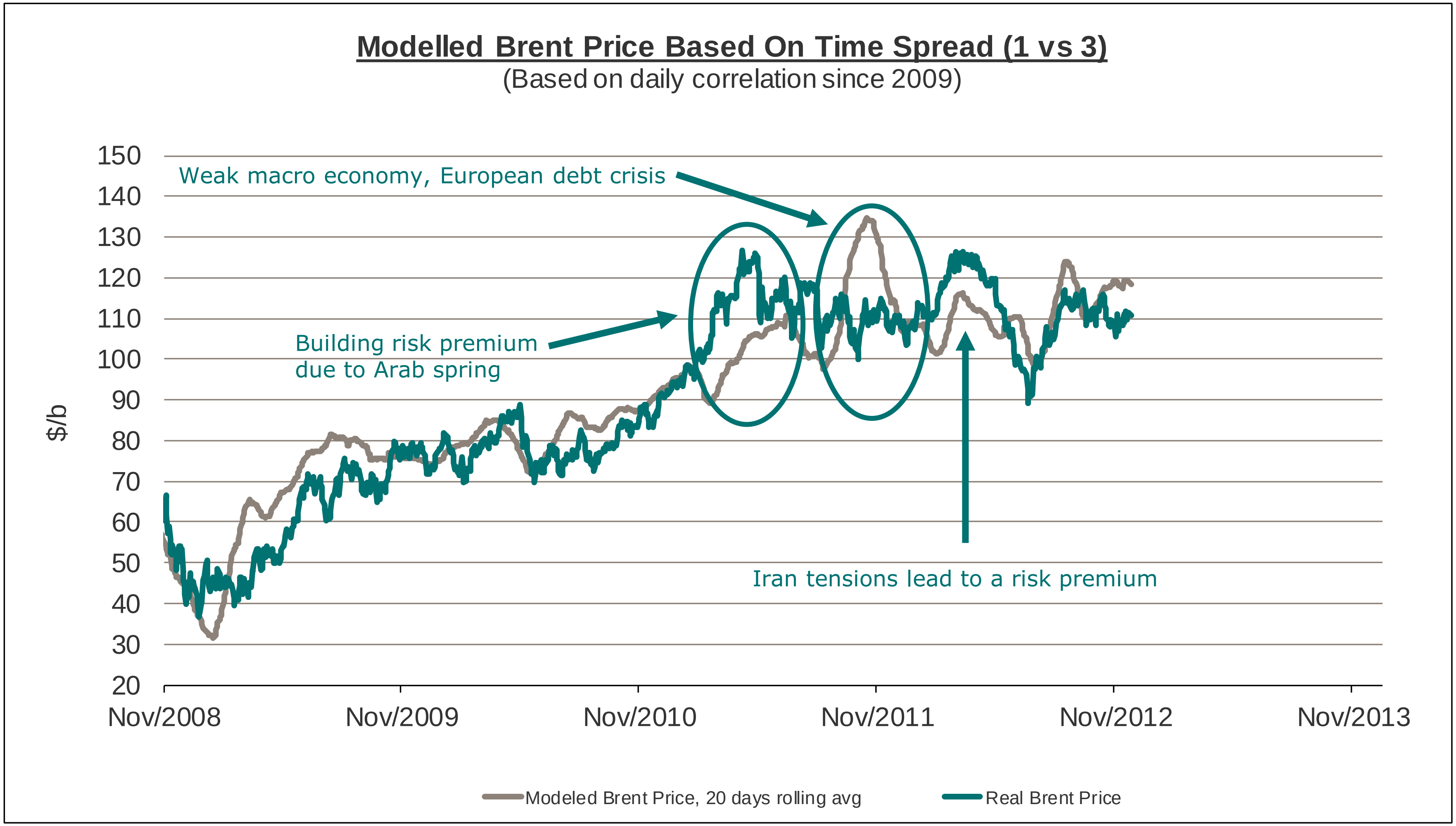
DNB MARKETS



Torbjørn Kjus – torbjorn.kjus@dnb.no – Telephone: +47 22 01 78 23

# Modeled Brent Price Based On Time Spread

- Has provided early market signals several times. Currently the Brent market is very tight (large backwardation) suggesting the oil price should be higher based on the model.



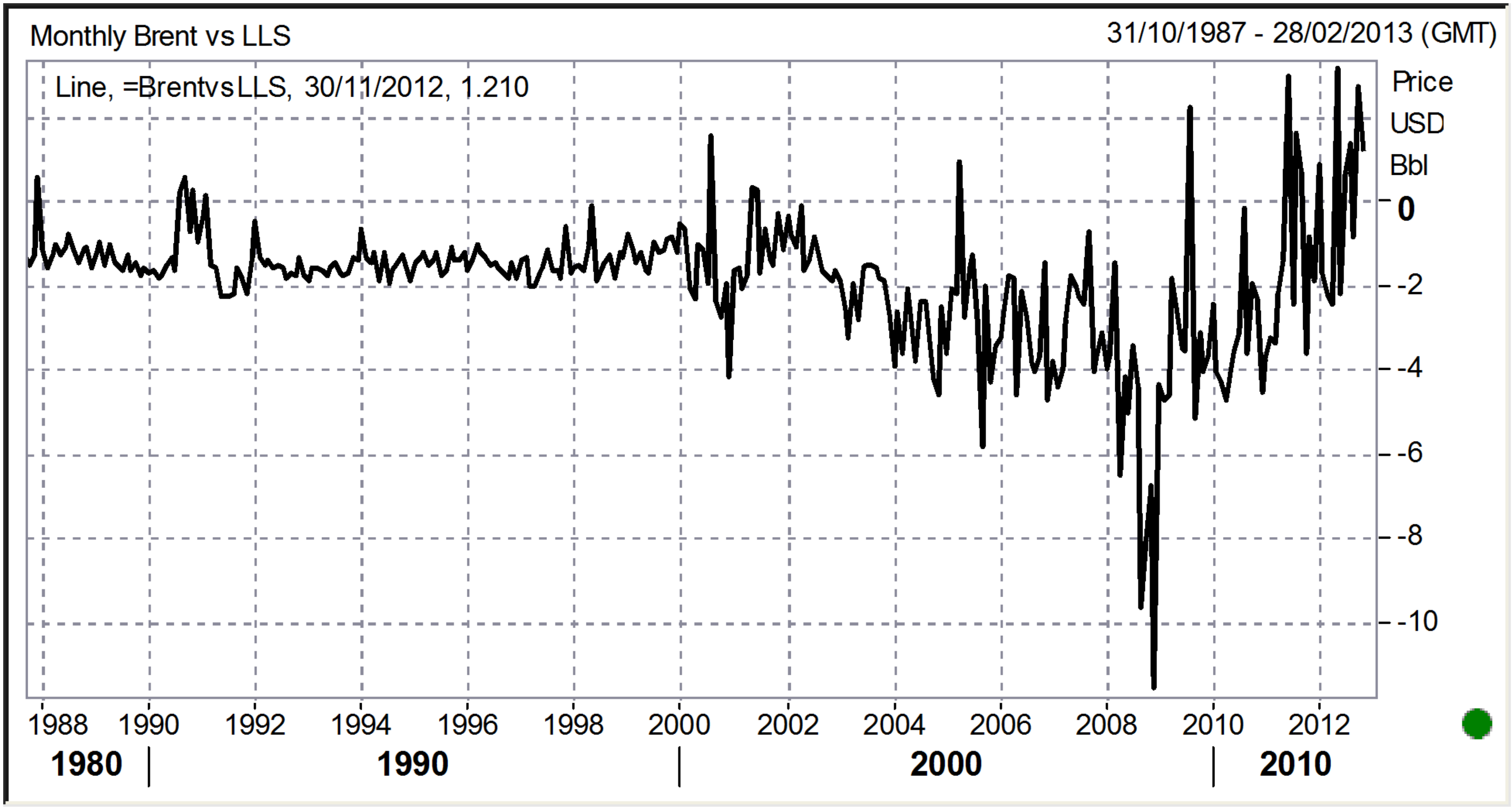

MARKETS



Torbjørn Kjus – torbjorn.kjus@dnb.no – Telephone: +47 22 01 78 23

# Brent vs LLS Starting To Trade Structurally In Favour Of Brent

- Over time this will push more West-African barrels towards Europe.




DNB

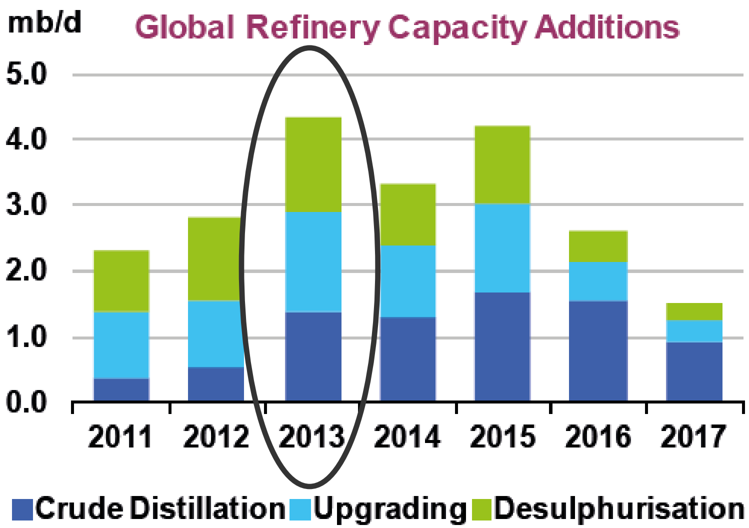
MARKETS

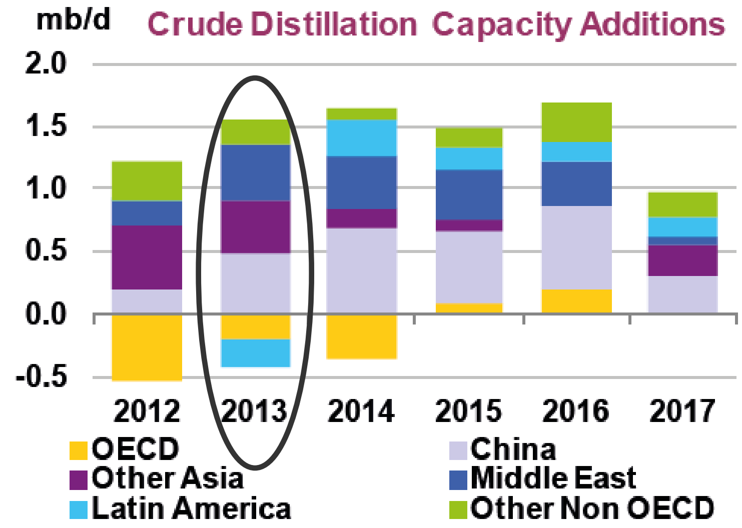


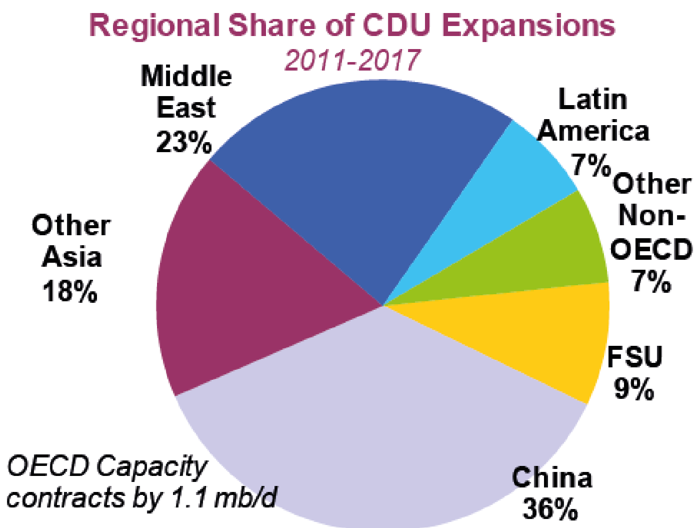
Torbjørn Kjus – torbjorn.kjus@dnb.no – Telephone: +47 22 01 78 23

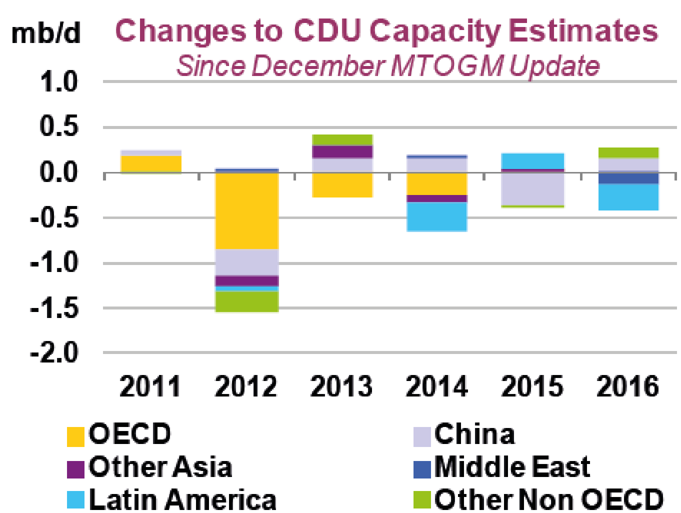
# 2013 Refining Capacity Additions To Outpace Demand Growth

- We believe net global oil demand will increase by 0.6 million b/d in 2013 – This will be significantly less than planned refinery capacity additions. Also some of the demand growth will be met by bypassing the refinery process (biofuels and NGLs).




Source: IEA Medium Term Oil Market Report – October 2012

Torbjørn Kjus – torbjorn.kjus@dnb.no – Telephone: +47 22 01 78 23

# DNB Markets, Commodities & Oil Equities

Torbjørn Kjus, oil market analyst - Oslo
torbjorn.kjus@dnb.no
Phone: +47 22 01 78 23

Nils Fredrik Hvatum, commodity dealer - Oslo
nils.fredrik.hvatum@dnb.no
Phone: +47 22 01 76 89

Fredrik Sagen Andersen, commodity dealer - Oslo
fredrik.sagen.andersen@dnb.no
Phone: +47 22 01 78 38

Ane Røste Fossen Tobiassen, commodity dealer - Oslo
ane.roste.fossen.tobiassen@dnb.no
Phone: +47 22 01 76 69

Nils Wierli Nilsen, commodity dealer - Oslo
nils.wierli.nilsen@dnb.no
Phone: +47 22 01 76 71

Karl Magnus Maribu, risk advisory - Oslo
karl.magnus.maribu@dnb.no
Phone: +47 22 01 76 68

Jesper Hatletveit, commodity dealer – Oslo
jesper.meyer.hatletveit@dnb.no
Phone: +47 22 01 77 91

Kenneth Tveter, commodity dealer – New York
kenneth.tveter@dnb.no
Phone: +1 347 803 0251

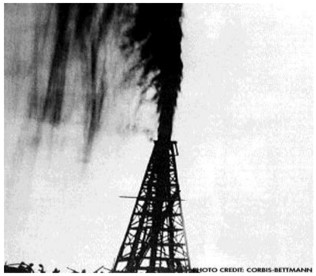
Seng Leong Ong, commodity dealer - Singapore
seng.leong.ong@dnb.no
Phone: +65 62 24 80 22

Andre' Rørheim, commodity dealer - London
andre.rorheim@dnb.no
Phone: +44 20 7621 6082

Espen Hennie, oil equities - Oslo
espen.hennie@dnb.no
Phone: +47 22 48 23 77

Erik Warren, commodity trader - Oslo
erik.warren@dnb.no
Phone: +47 22 01 76 58




# IMPORTANT/DISCLAIMER

This note (the "Note") must be seen as marketing material and not as an investment recommendation within the meaning of the Norwegian Securities Trading Act of 2007 paragraph 3-10 and the Norwegian Securities Trading Regulation 2007/06/29 no. 876. The Note has been prepared by DNB Markets, a division of DNB Bank ASA, a Norwegian bank organized under the laws of the Kingdom of Norway (the "Bank"), for information purposes only. The Note shall not be used for any unlawful or unauthorized purposes. The Bank, its affiliates, and any third-party providers, as well as their directors, officers, shareholders, employees or agents (individually, each a "DNB Party"; collectively, "DNB Parties") do not guarantee the accuracy, completeness, timeliness or availability of the Note. DNB Parties are not responsible for any errors or omissions, regardless of the cause, nor for the results obtained from the use of the Note, nor for the security or maintenance of any data input by the user. The Note is provided on an "as is" basis. DNB PARTIES DISCLAIM ANY AND ALL EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE, FREEDOM FROM BUGS, SOFTWARE ERRORS OR DEFECTS, THAT THE NOTE'S FUNCTIONING WILL BE UNINTERRUPTED OR THAT THE NOTE WILL OPERATE WITH ANY SOFTWARE OR HARDWARE CONFIGURATION. In no event shall DNB Parties be liable to any party for any direct, indirect, incidental, exemplary, compensatory, punitive, special or consequential damages, costs, expenses, legal fees, or losses (including, without limitation, lost income or lost profits and opportunity costs) in connection with any use of the Note, even if advised of the possibility of such damages. Any opinions expressed herein reflect the Bank's judgment at the time the Note was prepared and DNB Parties assume no obligation to update the Note in any form or format. The Note should not be relied on and is not a substitute for the skill, judgment and experience of the user, its management, employees, advisors and/or clients when making investment and other business decisions. No DNB Party is acting as fiduciary or investment advisor in connection with the dissemination of the Note. While the Note is based on information obtained from public sources that the Bank believes to be reliable, no DNB Party has performed an audit of, nor accepts any duty of due diligence or independent verification of, any information it receives. Confidentiality rules and internal rules restrict the exchange of information between different parts of the Bank and this may prevent employees of DNB Markets who are preparing the Note from utilizing or being aware of information available in DNB Markets/the Bank which may be relevant to the recipients of the Note. Please contact DNB Markets at + 47 22 94 89 98 for further information and inquiries regarding this Note, such as ownership positions and publicly available/commonly known corporate advisory performed by DNB Markets etc, in relation to the Norwegian Securities Trading Act 2007/06/29 no. 75 and the Norwegian Securities Trading Regulation 2007/06/29 no. 876.

The Note is not an offer to buy or sell any security or other financial instrument or to participate in any investment strategy. Distribution of material like the Note is in certain jurisdictions restricted by law. Persons in possession of the Note should seek further guidance regarding such restrictions before distributing the Note.

The Note is for clients only, and not for publication, and has been prepared for information purposes only by DNB Markets - a division of DNB Bank ASA registered in Norway with registration number NO 984 851 006 (the Register of Business Enterprises) under supervision of the Financial Supervisory Authority of Norway (Finanstilsynet), Monetary Authority of Singapore, the Chilean Superintendent of Banks, and on a limited basis by the Financial Services Authority of UK. Information about DNB Markets can be found at dnb.no.

**Additional information for clients in Singapore**

The Note has been distributed by the Singapore Branch of DNB Bank ASA. It is intended for general circulation and does not take into account the specific investment objectives, financial situation or particular needs of any particular person. You should seek advice from a financial adviser regarding the suitability of any product referred to in the Note, taking into account your specific financial objectives, financial situation or particular needs before making a commitment to purchase any such product.

You have received a copy of the Note because you have been classified either as an accredited investor, an expert investor or as an institutional investor, as these terms have been defined under Singapore's Financial Advisers Act (Cap. 110) ("FAA") and/or the Financial Advisers Regulations ("FAR"). The Singapore Branch of DNB Bank ASA is a financial adviser exempt from licensing under the FAA but is otherwise subject to the legal requirements of the FAA and of the FAR. By virtue of your status as an accredited investor or as an expert investor, the Singapore Branch of DNB Bank ASA is, in respect of certain of its dealings with you or services rendered to you, exempt from having to comply with certain regulatory requirements of the FAA and FAR, including without limitation, sections 25, 27 and 36 of the FAA. Section 25 of the FAA requires a financial adviser to disclose material information concerning designated investment products which are recommended by the financial adviser to you as the client. Section 27 of the FAA requires a financial adviser to have a reasonable basis for making investment recommendations to you as the client. Section 36 of the FAA requires a financial adviser to include, within any circular or written communications in which he makes recommendations concerning securities, a statement of the nature of any interest which the financial adviser (and any person connected or associated with the financial adviser) might have in the securities.

Please contact the Singapore Branch of DNB Bank ASA at +65 6212 0753 in respect of any matters arising from, or in connection with, the Note.

The Note is intended for and is to be circulated only to persons who are classified as an accredited investor, an expert investor or an institutional investor. If you are not an accredited investor, an expert investor or an institutional investor, please contact the Singapore Branch of DNB Bank ASA at +65 6212 0753.

We, the DNB group, our associates, officers and/or employees may have interests in any products referred to in the Note by acting in various roles including as distributor, holder of principal positions, adviser or lender. We, the DNB group, our associates, officers and/or employees may receive fees, brokerage or commissions for acting in those capacities. In addition, we, the DNB group, our associates, officers and/or employees may buy or sell products as principal or agent and may effect transactions which are not consistent with the information set out in the Note.

**Additional Information, including for Recipients in the In the United States:**

**The Note does not constitute an offer to sell or buy a security and does not include information, opinions, or recommendations with respect to securities of an issuer or an analysis of a security or an issuer; rather, it is a "market letter," as the term is defined in NASD Rule 2211.**

**In Brazil**

If the analyst or any close associates serves as an officer, director or board member, or have a personal relationship with any individual that works for a company which DNB Markets publish a research note, this will be mentioned under the disclaimer in the relevant research note.

The analyst or any close associates do neither hold nor do they have any direct/indirect involvement in the acquisition, sale, or intermediation of the securities discussed in each research note.

Any financial interests, not mentioned in the relevant research notes, that the analyst or any close associates holds in the issuer discussed in the report is limited to investment funds that do not mainly invest in the issuer or industry discussed in the report and the management of which these persons cannot influence.


Torbjørn Kjus – torbjorn.kjus@dnb.no – Telephone: +47 22 01 78 23