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Latin American E&P Outlook

Society of Petroleum Engineers
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Who We Are



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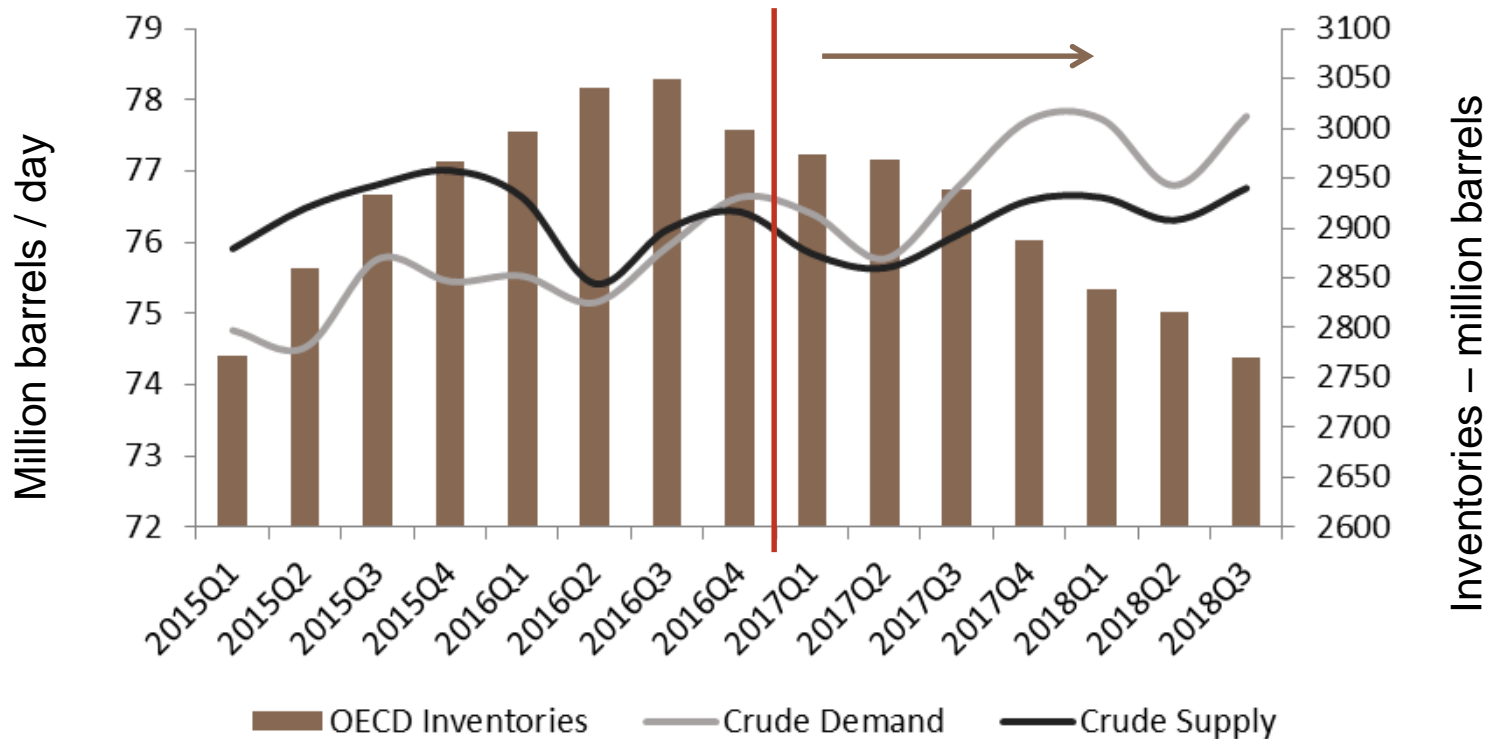
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- Stratas Advisors is a global consulting and advisory firm that covers the full spectrum of the energy sector and closely linked industries
- The world's leading businesses, governments and institutions turn to us for data, analysis and insight (IOCs, NOCs, independents, energy consumers and financial entities)
- We help our clients achieve tangible results through informed strategic decision-making and implementation planning
- Key differentiators include
 - Global coverage with deep local knowledge
 - Integrated analysis across the entire energy value chain, including macro-level analysis (geopolitics, macro-economics, policies and regulations)
- Our research and consulting staff comprises professionals located on the ground in key global energy market centers
- Combined, our team brings over 500 years of combined energy industry expertise, including
 - Technical (Petroleum Engineers, Geologists, Process Engineers)
 - Economists
 - Political Scientists
 - Financial Analysts

Lay of the Land – Oil Market Improving

Even with slippage from OPEC, demand exceeds supply



Early compliance data on OPEC is strong; demand growth view is cautious at 1.3 mmb/d

Mixed Bag for Key Economic Indicators

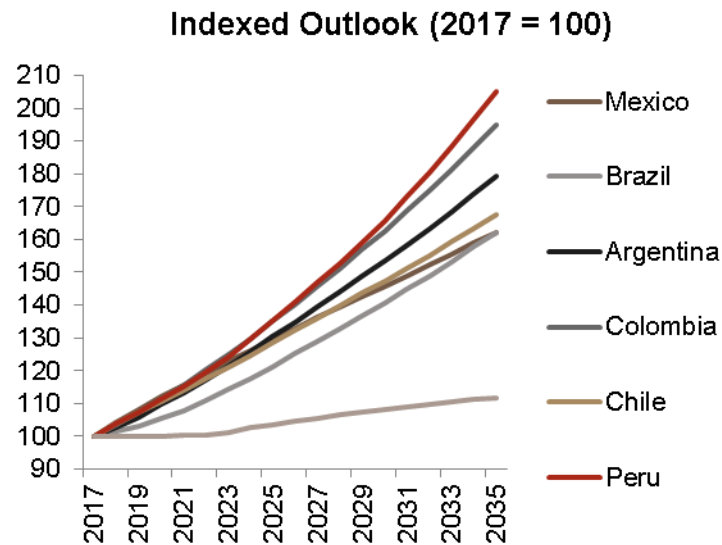
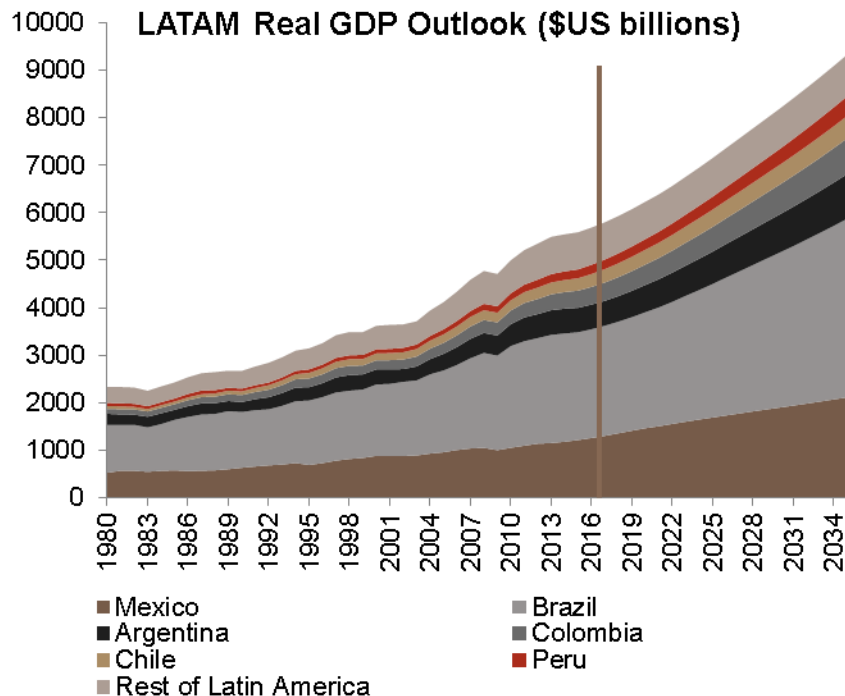
Sentiment is growing more positive, but headwinds remain

		Inflation & monetary policy		Demand- Side Indicators			Supply-Side Indicators		Overall View
		CPI (relative to target)	Real interest rates	Retail sales	Consumer confidence	Net exports	Industrial production	Unemployment	
Developed	United States								
	Japan								
	Eurozone								
	Great Britain								
	Canada								
	Korea								
	Australia								
Emerging	China								
	India								
	Russia								
	Turkey								
	Brazil								
	Mexico								
	Indonesia								
	South Africa								

Mexico and Brazil are seeing some growth as they emerge from tough times

Latin American Economic Outlook

Commodity prices putting pressure on GDP, but growth to resume

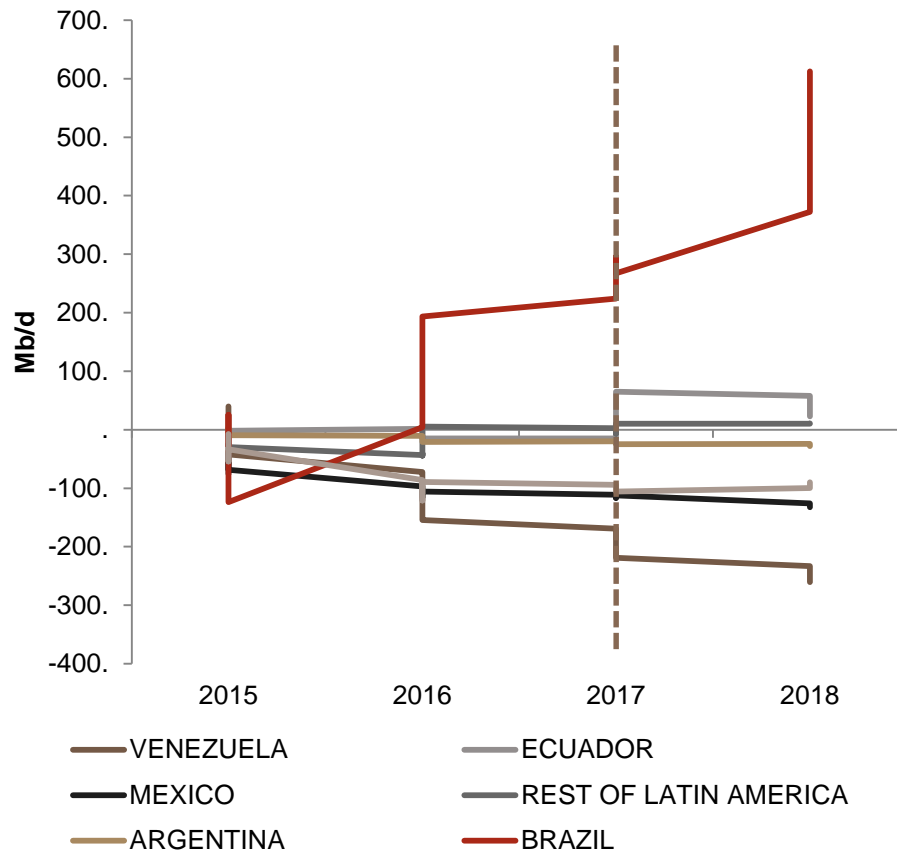


Growth will improve in outer years as commodity prices rise and development levels improve

Short Term Supply Growth Limited to Brazil

Brazil and Ecuador will see primary growth, while other markets will see declines

Latin American Incremental Supply
(1Q2015 Base)



— VENEZUELA — ECUADOR
 — MEXICO — REST OF LATIN AMERICA
 — ARGENTINA
 — COLOMBIA — BRAZIL

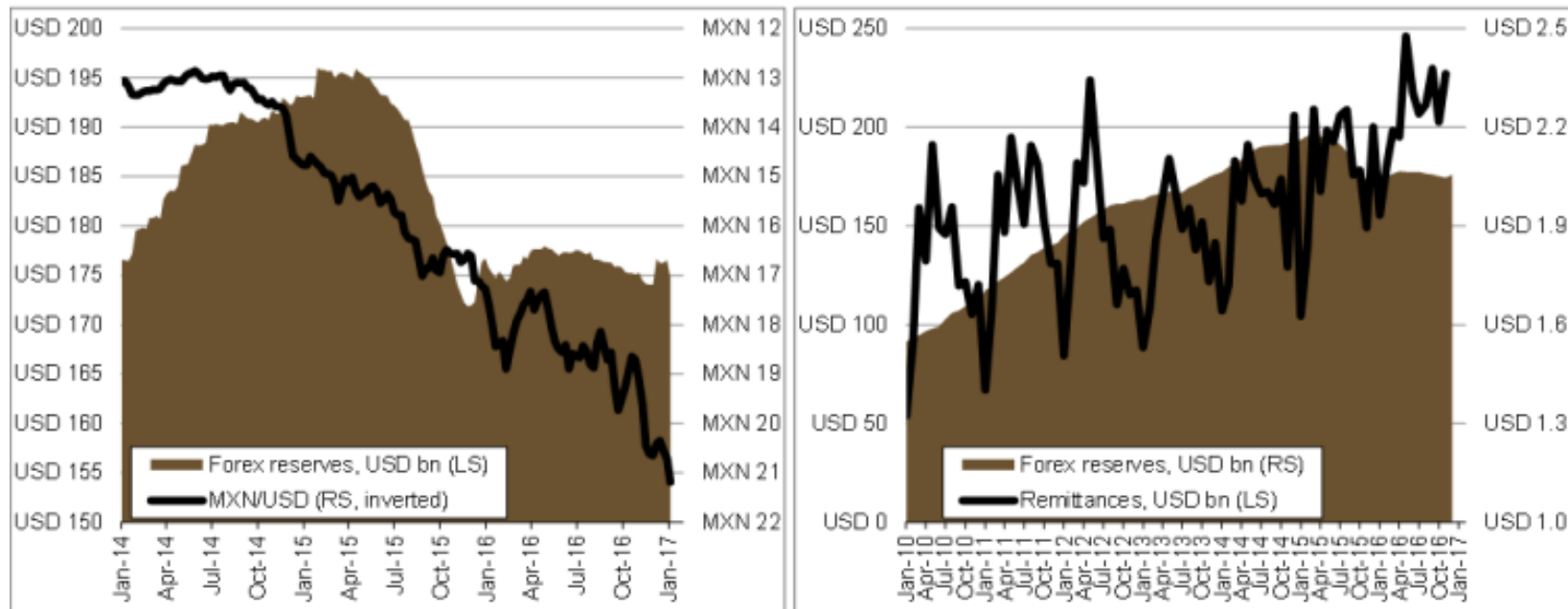
Source: *Stratas Advisors*

- Brazilian pre-salt production driving virtually all Latin America Supply growth in the short term
- Most incremental demand medium-sweet while declines from other key markets are heavy barrels
- While there have been some recent drilling successes (specifically ENI in March), large scale production out of Mexico remains several years out
- Venezuela declines assume lack of investment but no major government collapse

Mexico Economic Overview

Dwindling reserves combined with rapid inflation creating squeeze

Figs. 1 & 2: Movements in forex reserves viz. exchange rate, remittances



Source: Bloomberg LP, Banco de Mexico, Stratas Advisors

Worsening economic conditions driving energy reforms, including privatization and subsidy reduction at consumer level

Mexico's Move Towards Privatization

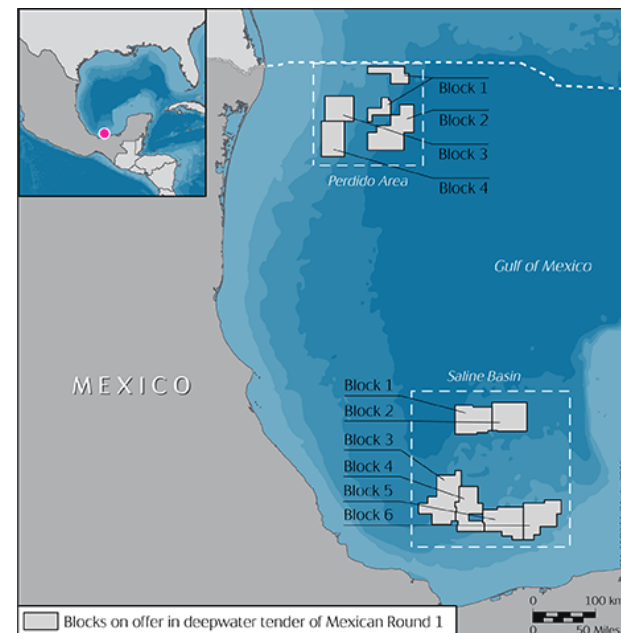
GOM offshore auction prospects improving with the market

2015 Rounds

- “Unsuccessful” as low commodity prices prevented transaction

2016 Rounds

- More interest from majors, higher levels of success – 8 of 10 in two auctions



Source: Statoil

<u>Perdido Area</u>	<u>Top bidder</u>	<u>Additional royalty (%)</u>
Block 1	China Offshore Oil Corp. E&P Mexico	17.01
Block 2	Total and ExxonMobil	5.00
Block 3	Chevron, Pemex and Inpex	7.44
Block 4	China Offshore Oil Corp. E&P Mexico	15.01

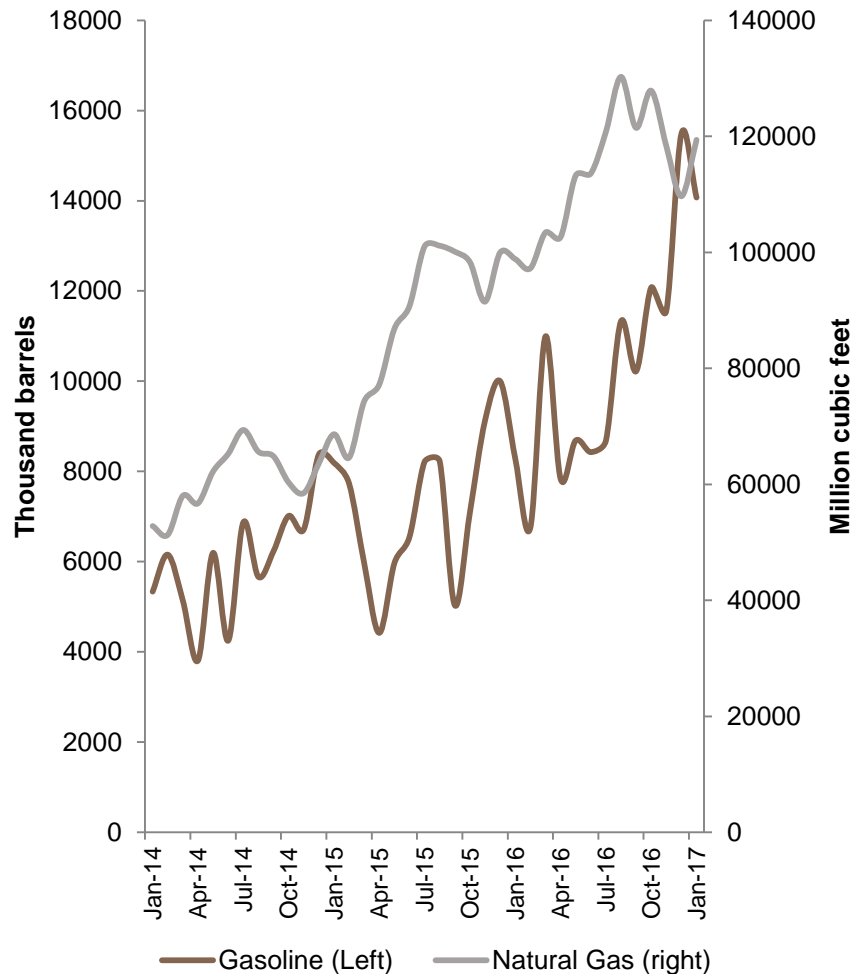
Source: CNH

<u>Saline Basin</u>	<u>Top bidder</u>	<u>Additional royalty (%)</u>
Block 1	Statoil, BP and Total	10%
Block 2	No bidders	
Block 3	Statoil, BP and Total	10%
Block 4	PC Carigali and Sierra	22.99
Block 5	Murphy, Ophir, PC Carigali and Sierra	1.0
Block 6	No bidders	

Source: CNH

In Lieu of Supply Growth, US fills the gap

Mexico's rising demand creating opportunities in the US



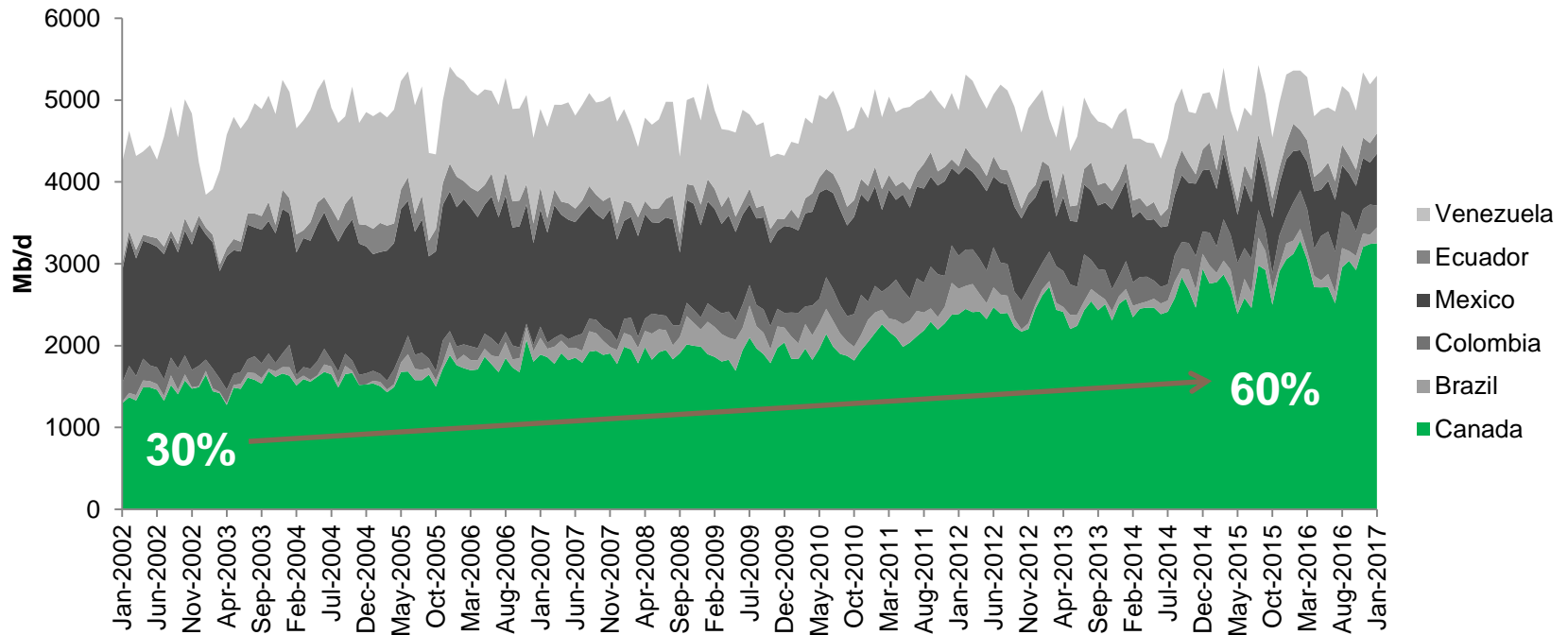
Source: EIA

- Mexico's demand for product – specifically for gasoline – continues to rise while refining remains insufficient
- Natural gas exports rising as new infrastructure takes hold and power demand rises quickly
- New E&P development could dampen this trend, but remains far off
- Gasoline demand exports will continue this trend unless fuel subsidy reduction harms consumption

Canada Displacing LATAM Heavy in US

Latin American crude continues to be under threat as US remains key importer

US Net Crude Imports by Country

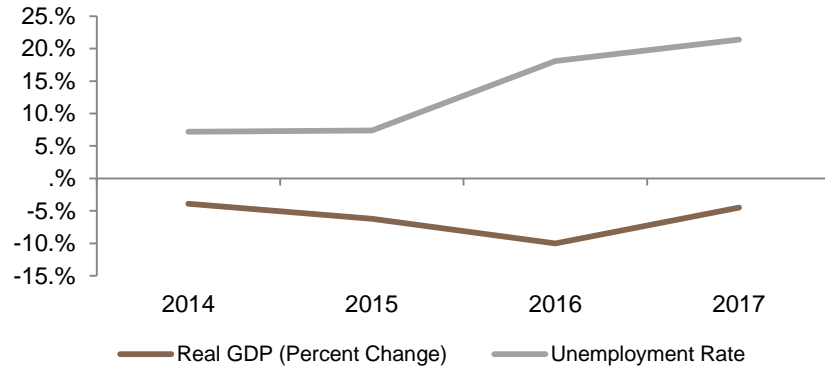


Latin American Crude imports to US have declined steadily, while Canada makes up the difference

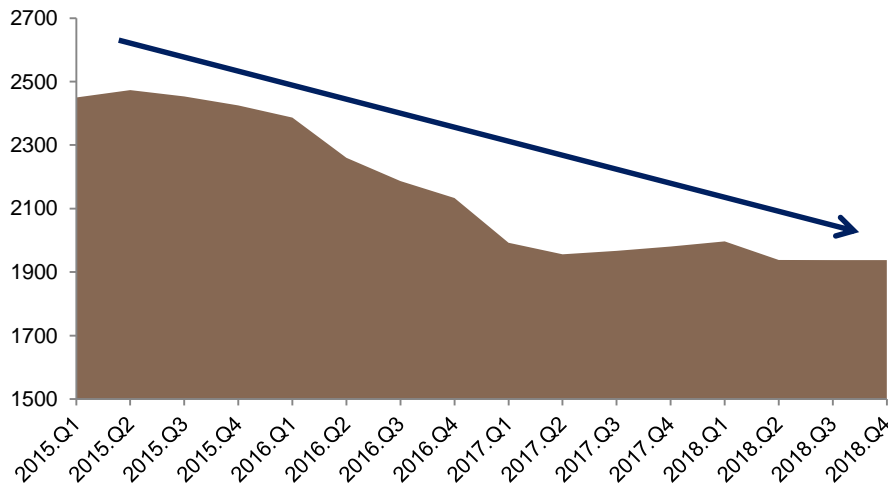
Venezuela is in Trouble

Nation appears on the verge of collapse with limited upside to be seen

Venezuela Key Economic Indicators



Venezuela Crude Supply Outlook



Source: IMF, Reuters, Stratas Advisors

- Venezuela's conditions continue to deteriorate
- Unemployment continues to skyrocket as GDP tanks
- Inflation in 2016 was over 475%
- Without Investment, Crude production will continue to decline
- Coup/revolution is likely, but base case assumes only mild supply disruption...
- ...but this could change

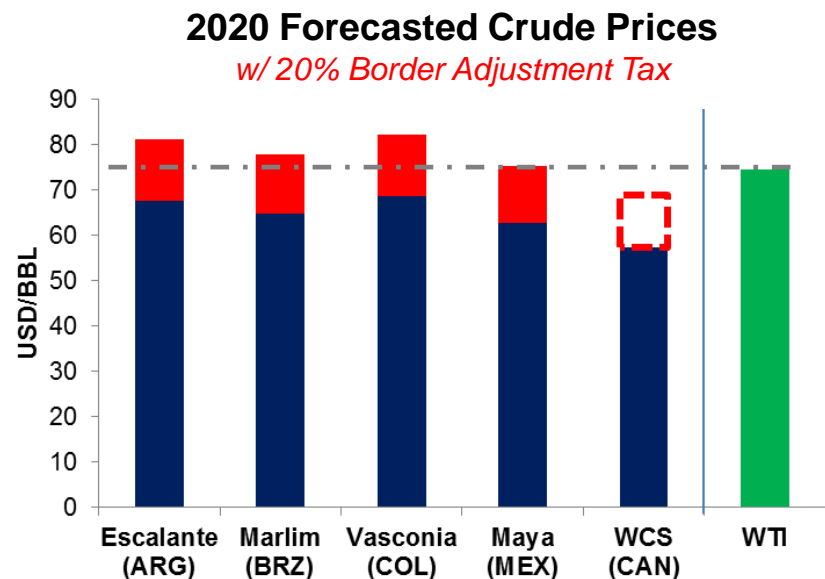
Border Adjustment Tax Remains Unlikely...

...but could create challenges for Latin American E&P prospects

- The Border Adjustment Tax (BAT) originating from congressional Republicans is gaining some traction, but accomplishing it remains far off
- Strong opposition within the administration and congressional circles remains, but many, including President Trump, are warming to the idea.

NAFTA revision

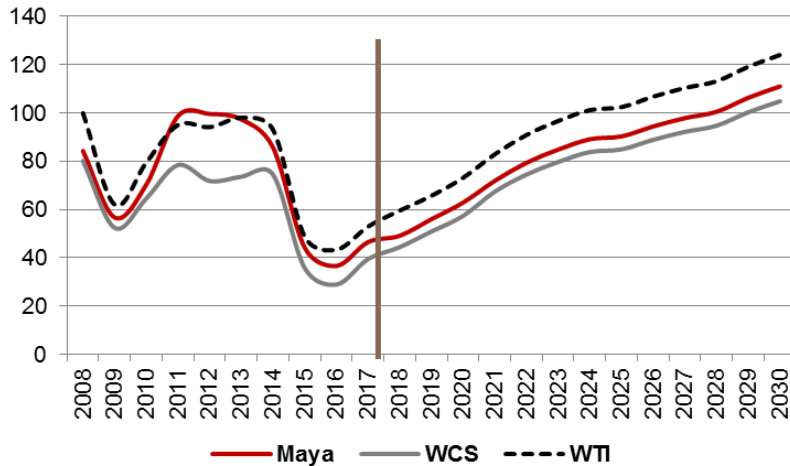
- Stratras Advisors assumes that, if a BAT is enacted, it may work to Canada's advantage as a free trade agreement between US and Canada is likely to remain
- As show on the chart to the right, a BAT on key LATAM heavy crude producers could create a \$20-\$25 premium for those crude vs. WCS
- All LATAM crudes will also be priced at or higher than WTI



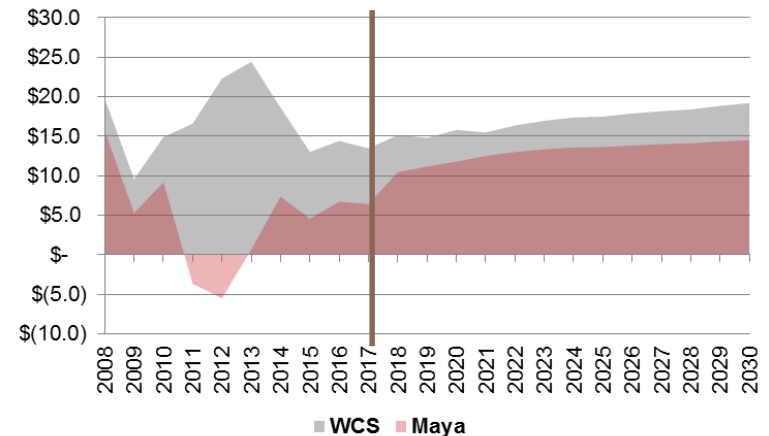
Long Term Price and Differential Outlook

H/L differentials will rise along with crude prices over the next 10+ years

Long Term Crude Price Outlook
Stratas Reference Case



Long Term Heavy Light Differential (vs. WTI)
Stratas Reference Case



In the Stratas Reference (business as usual) Case, crude prices progressively climb and while heavy/light crude differentials narrow in the outer years as demand for heavy crude rises

Key Takeaways

Latin American E&P will be under pressure, but long term opportunities remain

- Short term challenges remain in Latin America – especially Venezuela and to a lesser extent Mexico
- While Venezuela teeters on the verge of collapse, Mexico is likely to see a rebound as crude prices improve and development levels rise – but there are headwinds
- Bid rounds on Mexican upstream assets are improving, with the latest considered “successful” – but the economics will make development challenging
- Risks abound from OPEC, US Shale, US policy and inflation
- But Asian demands for heavy crude will rise – creating opportunities for Latin American production in the long term