



Q&A Forum

Attendees are encouraged to submit questions to speakers ahead of the conference. Please email your questions to conference@opportunitycrudes.com.

Oct 25 AM session: Climate change bill and opportunity crudes supply outlook

Section 1

1. As Canada strives to increase the value of the oilsands, should refiners expect to see a trend of bitumen-derived crude being upgraded to a greater degree upstream in the future?
2. If more regions switch to taking a life cycle (well-to-wheel) approach for regulating GHG emissions from transportation fuels, like California's Life Cycle Fuel Standard, will this greatly impact the appeal and use of opportunity crudes? How will this impact refiners that have already upgraded to handle low quality crude?
3. Will the market price opportunity crudes according to the CO₂ emission propensity in the future?
4. Carbon tax vs. carbon cap and trade. EC president Jose Manuel Barroso on July 2 said that he is in favor of a broad tax although the European Union has been implementing Emissions Trading Scheme (ETS) for many years. Is Europe changing its approach to fight climate change and how does it affect the US and the rest of the world? Which option is favored by environmental legislators in the world at this moment and in the future and why?
5. The gasoil fraction of Canadian syncrudes is known to have poor cetane quality, is any work being done to address this problem?
6. How do Canadian bitumen-derived crudes compare to other opportunity crudes from say, South America, in terms of the quantity and ease of middle distillate production? Other than API are there any key crude properties to consider when trying to increase middle distillates?
7. To what extent are the tightening regulations for bunker fuels expected to impact the profitability of processing heavy crudes? What upgrading options are available for minimizing this fraction of the crude?

Oct 25 PM session: Crude quality, distribution, and management

Section 2

1. What are potential miscibility problems when Canadian syncrudes are blended with paraffinic crudes in Asia as oilsands producers are eyeing the Far Eastern market?
2. What are potential miscibility problems when Brazilian heavy oil and Venezuelan bitumen are blended with paraffinic crudes in Asia as Latin American producers are eyeing the Far Eastern market?



3. Naphthenic acid (NA) is known to cause corrosion in refinery equipment. There are some developmental works to decarboxylate NA in a hydrotreater. What is the development status?
4. There are a few theories of asphaltene fouling. Can anyone offer a clearer picture of fouling formation? Also, is there any pretreating approach ahead of the desalters?
5. How much of the current world production of crude is considered to be acid crude? Would acid crudes be crudes with a Total Acid Number (TAN) greater than, say, 0.5 or 1.0 mgKOH/g?
6. What approximate percentage of refineries (or number of refineries) in the world can process these acid crudes? What is the typical maximum TAN capability of most these refineries, e.g. < 2 mgKOH/g or < 5 mg KOH/g? What is the typical maximum TAN capability of the best of these refineries, e.g. < 10 mgKOH/g?
7. What are the main methods employed by refineries to enable them to process acid crudes? What is the recent or emerging trend in processing methods employed by refineries to enable them to process crudes with higher content of acids?
8. Has any refinery or high acid crude production company tried to build a processing unit dedicated to destroying or reducing acids in crude to conventional levels first to allow the treated crude to be processed in conventional refinery processing units thereafter?
9. What are some of the problems refiners have encountered as a result of additives/treatments used in upstream production or in the pipeline? What options do refiners have for mitigating these problems?

Oct 26 AM session: Innovations in downstream processing I

Section 3

1. What BOB technologies have refiners who are willing to make moderate capital investments to increase processing capacity for opportunity crudes considered? Does anyone have experience with a process that has worked particularly well?
2. What options are available for retrofitting an existing refinery to process a significant quantity of extra-heavy or bitumen-derived crude?
3. In Japan, ExxonMobil and Petrobras plan to bow out from the refining business because of a new rule forcing refiners to raise the proportion of gasoline and gasoil they produce from residues. The upgrades (i.e., installation of delayed cokers and RFCCU) appear to be very expensive. Are there any alternatives?
4. For crude blends prone to excessive fouling, how does the expense of heat exchanger cleaning (online or traditional methods) compare to the cost of using additives to reduce the rate of fouling (and to increase time between cleanings)?



Oct 26 PM session: Innovations in downstream processing II and carbon management

Section 4

1. Heavy, dirty opportunity crudes require more processing (and therefore more energy) to obtain high quality products than required light, sweet crudes. How can refiners handle/mitigate the associated increase in CO₂ emissions?
2. Which carbon capture technology has the most potential to be adopted by refiners? Are any refineries that have implemented carbon capture?
3. Upstream vs. downstream. Which place is the most economical to reduce CO₂ emissions on a life cycle basis?

Please submit your answers to conference@opportunitycrudes.com