

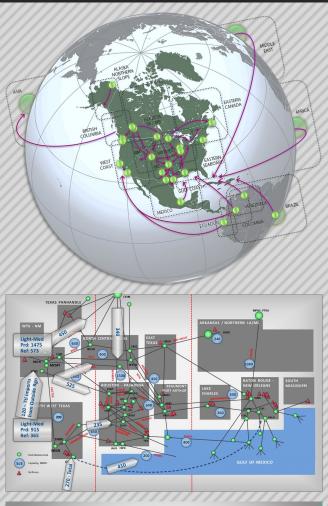
CRUDE OIL STUDY SERIES AND SUPPORT SERVICES



CRUDE OIL STUDY SERIES AND SUPPORT SERVICES 2019



EAI, INC. CRUDE OIL STUDY SERIES | 2019





North American Crude

Study provides information, analysis and forecasts covering crude production, crude logistics, refining and crude supply economics. Each study section covers a different geography including Western Canada, the U.S. Central Corridor Regions, Western U.S., Rocky Mountains, U.S. Gulf Coast, Latin American Key Countries and other key Global supply centers. Provides insights into heavy oil supply-demand integrating the best of EAI, Inc.'s comprehensive Latin American Petroleum Study and detailed outlook for Western Canadian supply and Western Hemisphere refinery projects and demand.

Light crude outlook is detailed with implications for Cushing benchmark pricing in an era of localized crude surplus and logistics constraints. Pipeline, rail, and marine transport options both current and future are analyzed with respect to capacity and economics. Refinery crude runs, utilizations and crude slates are detailed by refinery hub and plant. EAI, Inc. integrates global crude pricing by major crude hub and grade with parallel North American Crude Price Outlooks taking into account basin clearing prices, crude supply cost outlooks and key network events and price triggers.

Gulf Coast Crude Deep Dive

EAI, Inc.'s Gulf Coast Crude Deep Dive study provides a detailed analysis of and outlook for eight Gulf Coast refining hubs, inter-hub logistics, crude production outlooks and integrates this GC Deep Dive with its overall North American outlook. As part of this study, EAI details both offshore and onshore production outlooks by crude grade with at least 10 years of historical production and a 10-year forecast horizon covering major Gulf Coast fields and basins.

Detailed supply projections depict all key crude streams including LLS, HLS, WTI, WTS, Eagle Ford Crude, Eagle Ford Condensate, offshore medium sour, offshore light sour and other Gulf Coast streams. Refinery expansion projects and current crude slates detailed across all 48 refineries. Gulf Coast interaction with global and other domestic regions is detailed in regard to crude flows, logistical capabilities and pricing as well as detailed analysis of intra-gulf coast crude logistics, flows, and new project impacts. As is the case with all EAI, Inc. Crude studies, the crude market outlook is driven with EAI, Inc.'s latest outlook for downstream markets and, for this study, the Gulf Coast downstream business outlook.

Western Canada Crude Deep Dive

EAI, Inc. recently completed its Western Canadian Crude Deep Dive study which provides a more in-depth assessment of the Western Canadian crude business. This Western Canadian Crude DD study compliments EAI, Inc.'s North American Crude study but provides another level of insights into crude production, crude oil terminals, pipeline distribution and location crude flows and movements. The production outlook includes build up from the project level with EAI, Inc.'s assessment of each project production schedule.

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North American Basin Deep Dive Study Products & Tracking Services

EAI, Inc.'s cycles through all major North American resource basins with current focus on liquids production. EAI, Inc.'s develops bottom-up analytics of basin economics by characteristic well representing unique geology and producers. This provides the building blocks for a basin specific production outlook that responsive to representative well-head netbacks and production stream grades. These production outlooks are integrated with intra-basin distribution hubs and transportation systems as well as inter-basin transportation systems to specific refinery markets. EAI, Inc. develops detailed stream balance outlooks and profiles of take-away capacity and market capacity. EAI, Inc. has recently conducted deep dives on the Permian, D-J Basin, Eagle Ford, Bakken, Mid-Continent and Western Canada Sedimentary Basin.

North American Condensate

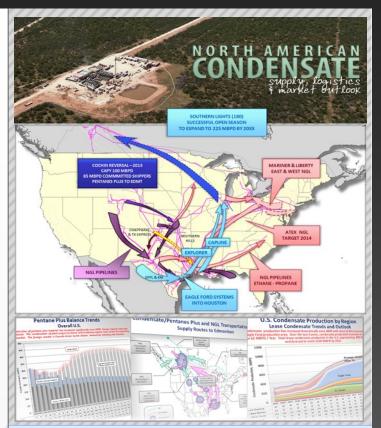
EAI, Inc. tracks and analyzes the availability and outlook for condensate through ultra-light crude for the North American production basins and will focus these efforts in the next annual update of its *North American Condensate Supply, Logistics, and Market Outlook*. The increasing production of condensate has been accommodated by increasing blending with other crudes and its use as a bitumen blend diluent . The output objectives of this study have very important implications for light crude/condensate producers, refinery feedstock planners, splitter investments, chemical feedstock planners, bitumen producers and logistics companies.

CrudeHub Web Portal

EAI, Inc. has implemented its CrudeHub portal as a conduit between EAI, Inc. studies, data, and analytical tool outputs and its Study clients. This new web platform provides a set of dynamic reporting tools with multi-dimensions of information capture in support of EAI's crude study series. CrudeHub features include: interactive study content, pipeline and rail project tracking down to the asset level with time plotting and mapping, U.S. refining profiles and slates by plant, crude production forecasts by basin and stream, regional crude balance forecasts, economics & pricing, automated news monitoring, and much more.

Analytical Tools, Data Access † Modeling

EAI, Inc. has evolved an integrated Energy Grid Relational Model Platform, Business Component Modeling Tools and its integrated STARS (Supply, Transportation and Refining System) to support its industry studies and client specific strategy, tactics and investment decisions. These information systems and tools also support information and reporting that is accessible via EAI, Inc.'s CrudeHub Portal.



Custom Consulting & Value-Added Services

EAI, Inc. has a evolved a truly unique and integrated approach and supporting process to bridge EAI, Inc.'s in-depth information and leading edge analytics to client specific needs. These capabilities have bee applied to a number of client specific initiatives including but not limited to:

- Opportunity crude supply and pricing outlooks for specific refineries to support feedstock planning and purchasing
- Pipeline investment support projects including new build projects, pipeline expansions/service shifts and acquisitions and divestitures.
- North American logistics strategies and implementation support for crude transport including pipeline, rail, marine and multi-modal
- Crude marketing and pricing outlooks for specific crude basins and crude grades helping producers create value for their resources
- Pipeline quality bank evaluations and tracking

EAI, Inc. draws on its integrated information base, analytics and forecasts spanning resources, transportation, manufacturing, markets, economics and regulations and to support these client specific engagements. EAI, Inc. provides the same compliment of studies and consulting services covering the Downstream side of the business, manufacturing and petroleum markets (Ask for EAI, Inc.'s Downstream Product and Services Brochure).

About EAI, Inc.

EAI, Inc. (Energy Analysts International) is a consulting and product development firm founded in 1982 with a mission to provide strategic consulting, products and valued added services built upon thorough information resources, advanced analytics and a clear vision of customer and product objectives. EAI, Inc.'s specialty is providing very regionalized and integrated analysis of the business components that comprise the petroleum business to address key industry topics or company specific strategies. The products summarized here draw on EAI, Inc.'s knowledge and experience in evaluating all aspects of the crude oil business including refining, transportation, pricing and economics and resource development. To support this mission, EAI, Inc. has evolved:

- Proprietary information resources
- Application tools/software
- Series of leading edge products
- Web based valued added information delivery



EAI, Inc. applies its information, analytics and business/objective formulation process across the energy commodity business spectrum:

- Business Components: resources, logistics, manufacturing, distribution and markets
- Range of Commodities: refined products (gasoline, distillates, jet fuel), biofuels, crude oil (heavy crude, medium sour, light) condensate, natural gas and natural gas liquids (butane, propane, ethane), alternative energy
- Business Functions: planning, strategy, business development, projects, acquisitions & divestitures, financial, operations
- Geographies/Entities: Resource, asset and company footprints to distribution hubs, markets transportation corridors and their interactions (regional and global)

Together, these unique capabilities support EAI, Inc.'s standardized and process oriented approach to:

- Consulting
- Industry products
- Valued added services

EALINC 12000 Pecos Street, Suite 310

Westminster, CO 80234

