



# ANTENA TECNOLÓGICA

Boletín de novedades

Octubre - Noviembre de  
2014



## Petróleo y Gas

DOWNSTREAM

REFINACIÓN, PRODUCTOS Y PROCESOS PETROQUÍMICOS, LOGÍSTICA, TRANSPORTE



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## DOWNSTREAM

### REVISTAS

#### Evaluación tecno-económica e impacto medioambiental de las alternativas de gas de esquisto al metanol

Publicada el 09/09/2014

2014. ACS Sustainable Chem. Eng., Recent discoveries of shale gas reserves have promoted a renewed interest in gas-to-liquid technologies for the production of fuels and chemicals. One option of particular interest for the chemical industry is the production of methanol. In this work, an economic and environmental analysis for the production of methanol from shale gas is presented. Four reforming technologies, partial oxidation, steam methane reforming, autothermal reforming, and a combined reforming, are considered for the production of the syngas to be fed to the methanol plant. Process simulations are used to assess the performance of each resulting flowsheet.



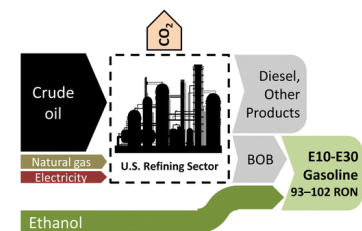
[ver más...](#)

## DOWNSTREAM

### Economía de refinación de gasolina en los EE.UU: Octanaje y contenido de etanol

Publicada el 21/08/2014

2014. Environmental Science & Technology. Increasing the octane rating of the U.S. gasoline pool (currently 93 Research Octane Number (RON)) would enable higher engine efficiency for light-duty vehicles (e.g., through higher compression ratio), facilitating compliance with federal fuel economy and greenhouse gas (GHG) emissions standards. The federal Renewable Fuels Standard calls for increased renewable fuel use in U.S. gasoline, primarily ethanol, a high-octane gasoline component. Linear programming modeling of the U.S. refining sector was used to assess the effects on refining economics, CO<sub>2</sub> emissions, and crude oil use of increasing average octane rating by increasing (i) the octane rating of refinery-produced hydrocarbon blendstocks for oxygenate blending (BOBs) and (ii) the volume fraction (Exx) of ethanol in finished gasoline.



[ver más...](#)

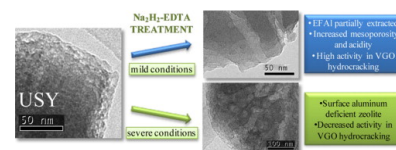
## DOWNSTREAM

### PUBLICACIONES CIENTÍFICAS

#### Efecto del tratamiento EDTA en las propiedades ácidas del zeolito USY y su funcionamiento en el hidrocrqueo de gasóleo al vacío

Publicada el 01/11/2014

2014. Applied Catalysis A: General. USY zeolite catalysts were chemically modified by treatment with aqueous solutions of sodium ethylenediaminetetraacetic acid (EDTA) to study the effect of removal of extraframework aluminum species (EFAI) on hydrocracking performance. The textural, structural and acidic properties were characterized by XRD, elemental analysis, XPS, N<sub>2</sub> physisorption, HRTEM, <sup>29</sup>Si and <sup>27</sup>Al solid-state NMR, ammonia TPD and IR spectroscopy of adsorbed pyridine. The acid catalytic activity of the zeolites was measured by the conversion of propane and 1,3,5-tri-isopropylbenzene. EDTA is a selective agent for the extraction of EFAI from USY preserving the framework Al content.



[ver más...](#)

#### Productividad de lípidos y ultraestructura celular de seis cepas de Nannochloropsis: Consecuencias en la producción de biocombustibles y el proceso de downstream

Publicada el 01/10/2014

2014. Algal Research. Microalgae are generating considerable interest for third generation biodiesel production. However, appropriate strain selection is proving challenging due to the significant variation in cellular physiology, metabolic potential and genetics observed even amongst strains deemed morphologically similar. Six strains of Nannochloropsis from the CCAP culture collection were assessed for their lipid productivity and cellular structure, as proxies for oil production and harvesting ease, to assess their suitability as biodiesel production platforms. Differences in growth rate and lipid accumulation across the strains were observed. Nannochloropsis oculata strain 849/7 showed significantly reduced doubling time compared to Nannochloropsis salina strain 849/3, whilst Nannochloropsis oceanica 849/10 produced the highest lipid content.

[ver más...](#)

## DOWNSTREAM

### **Efectos del método de activación en el rendimiento de catalizadores de metal común preparados mediante impregnación húmeda para la hidrogenación de tolueno en fase líquida**

Publicada el 30/09/2014

2014. Reaction Kinetics, Mechanisms and Catalysis. The present work aims to study the effects of the activation method on the performance of base metal catalysts for toluene hydrogenation in liquid phase. For this, catalysts of Fe, Co and Ni supported on  $\gamma$ - $\text{Al}_2\text{O}_3$  were prepared by wet impregnation from chlorinated precursors and reduced by formaldehyde. The prepared catalysts were activated ex situ at 773 K or in situ at 523 K both under  $\text{H}_2$  and characterized by  $\text{N}_2$  physisorption, SEM + EDX, TEM, XPS and TPR techniques. Catalytic tests were conducted in a slurry Parr reactor at 373 K under  $\text{H}_2$  pressure of 5 MPa. The results indicate the formation of metal hydroxides during the catalysts preparation, which are not reduced by the formaldehyde.

[ver más...](#)

### **Síntesis de meso-SAPO-11 y su incremento de isomerización en el proceso de craqueo catalítico fluido**

Publicada el 30/09/2014

2014. Applied Petrochemical Research. With the quality of crude oil becoming worse, the efficient Fluid catalytic cracking (FCC) conversion of heavy oil is of great challenge. The enhancement of isomerization during catalytic cracking process is a feasible approach to improve the gasoline yield and quality. In this study, meso-SAPO-11 was synthesized by citric acid modification to generate mesopores in the SAPO-11 molecular sieve. The modification temperature played an important role in the mesopore generation. Nitrogen sorption and X-ray diffraction analysis had been utilized to characterize the mesoporous structure. Meso-SAPO-11 was further used as an additive in the FCC catalyst for catalytic evaluation with atmospheric gas oil and coking gas oil.

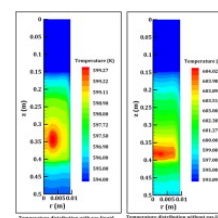
[ver más...](#)

## DOWNSTREAM

### Estudio CFD del proceso de hidrotratamiento del petróleo diésel en un reactor de lecho percolador no isotérmico

Publicada el 30/09/2014

2014. Chemical Engineering Research and Design. In the present study, the Eulerian–Eulerian multiphase approach was implemented to simulate the hydrotreating processes (hydrodesulfurization (HDS) and hydrodearomatization (HDA)) in the trickle bed reactor (TBR) by means of computational fluid dynamics (CFD) technique. A new gas–liquid interphase heat transfer coefficient was used in the CFD model to predict the reactor performance at non-isothermal conditions. The effects of feed inlet temperature, gas and liquid velocities, operational pressure and hydrogen sulfide concentration of the gas phase were investigated to calculate the reactions conversions and the bed temperature distribution. Also, the influence of bed porosity and adiabatic operational conditions on the reactor temperature and HDS reaction conversion was discussed.



[ver más...](#)

### Efectos de la oligomerización del fenol y sus derivados con óxido de propileno como aditivo antimicrobiano en aceites

Publicada el 18/09/2014

2014. Chemistry and Technology of Fuels and Oils. The results of a study of oligomerization of phenol and some of its derivatives by reaction with propylene oxide in the presence of the nitrogen-containing modifier benzoguanamine are submitted. The structure of the synthesized oligomer is suggested. The zone of annihilation of mixtures of bacteria and fungi by adding the obtained products as additive to I-40 lube oil is determined. The bactericidal and fungicidal effectiveness of nitrogen-containing oligomers with ethanol, namely, 8-hydroxyquinoline, is compared.

[ver más...](#)





## DOWNSTREAM

### **Análisis comparativo y evaluación de tres procesos de destilación al vacío de petróleo crudo para selección del proceso**

Publicada el 04/09/2014

2014. Energy. There exists three practicable crude oil vacuum distillation processes and different processes have a significant impact on material and energy performances, including product yield, economic potential, heat recovery and the efficiencies of recoverable energy and recoverable exergy. Process selection is an important and difficult task for designers with various targets since the material and energy performances of a process do not coordinate with each other. In this work, an approach with simultaneous considerations of material and energy performances is proposed to comparatively analyze and evaluate the three processes, in order to provide insights for designers to screen a suitable process and vacuum furnace outlet temperature.

[ver más...](#)

## DOWNSTREAM

### PROYECTOS

#### **El CONICET y la Fundación YPF financiarán Proyectos para la industria energética**

Publicada el 11/09/2014

El presidente del Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET), Dr. Roberto Salvarezza, y la directora ejecutiva de la Fundación YPF (FYPF), Lic. Silvina Oberti, firmaron un convenio para la presentación conjunta de Proyectos de Investigación Orientados (PIO) y becas postdoctorales que respondan a la necesidad de promover el desarrollo sostenible de la industria energética.

[ver más...](#)



## DOWNSTREAM

### PATENTES

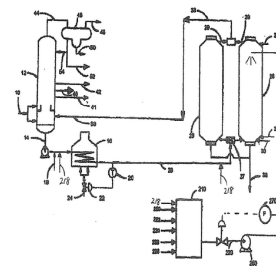
#### Aumento de las reacciones catalíticas en el proceso de coquización para mejorar el proceso de operación y economía

Publicada el 31/10/2014

WO2014175978

Heavy gas oil components, coking process recycle, and heavier hydrocarbons in the delayed coking process are cracked in the coking vessel by injecting a catalytic additive into the vapors above the gas/liquid-solid interface in the coke drum during the coking cycle. The additive may comprise cracking catalyst(s) and quenching agent(s), alone or in combination with seeding agent(s), excess reactant(s), carrier fluid(s), or any combination thereof to modify reaction kinetics to preferentially crack these components. The quenching effect of the additive may be effectively used to condense the highest boiling point compounds of the traditional recycle onto the catalyst(s), thereby focusing the catalyst exposure to these target reactants.

[ver más...](#)



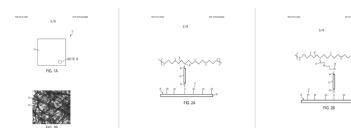
## DOWNSTREAM

### Composiciones sorbentes, artículos absorbentes, métodos para la preparación de artículos absorbentes y métodos para la captura de gases objetivo utilizando los artículos absorbentes

Publicada el 31/10/2014

WO2014176066

Articles for capturing or separating a target gas from a gas stream may include a porous substrate such as a flexible sheet or mat, or a rigid ceramic monolith impregnated or coated with a sorbent composition. The sorbent composition may include a polyamine and a coexistent polymer chemically bonded to the polyamine. The polyamine may include a polyethylenimine. The coexistent polymer may include a polyurethane, a polyolefin-acrylic acid copolymer, or a combination thereof.



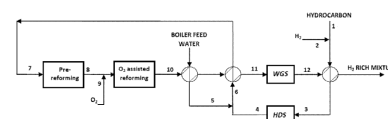
[ver más...](#)

### Método y sistema para la producción de mezclas de gases ricas en hidrógeno

Publicada el 03/10/2014

US20140291581

The present invention relates to a process for producing a hydrogen containing gas mixture comprising the following steps: (i) providing a preheated mixture comprising a fossil fuel, preferably methane, and steam, (ii) conducting an adiabatic reaction between the fossil fuel and the steam, in the presence of a catalyst, wherein a first reaction product mixture is formed comprising methane, hydrogen and carbon dioxide, and (iii) conducting an oxygen-assisted reforming reaction in the presence of a catalyst between said first reaction product mixture and an oxygen comprising stream, wherein the oxygen comprising stream comprises at least 40 vol % oxygen, forming a second reaction product mixture comprising hydrogen and carbon monoxide.



[ver más...](#)



## DOWNSTREAM

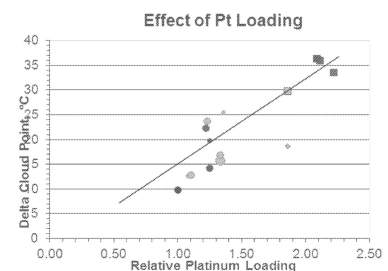
### Producción de combustibles destilados con bajo punto de niebla

Publicada el 03/10/2014

WO2014158675

Methods are provided for dewaxing a distillate fuel boiling range feed to improve one or more cold flow properties of the distillate fuel feed, such as cloud point, with reduced consumption of hydrogen during the dewaxing process. The reduced hydrogen consumption is achieved by using a dewaxing catalyst with a reduced content of hydrogenation metals, such as a content of Pt or Pd of from about 0.03 wt% to about 0.35 wt%. A distillate fuel feed can be dewaxed to achieve a desired cloud point differential using a reduced metals content dewaxing catalyst under the same or similar conditions to those required for a dewaxing catalyst with higher metals content.

[ver más...](#)



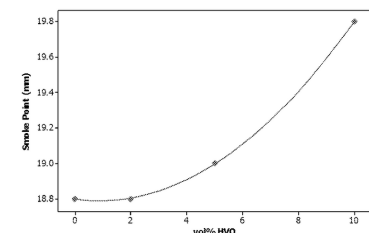
### Mezcla de biocombustibles desparafinados con cortes de destilación de keroseno a base de minerales para abastecer carburorreactores

Publicada el 26/09/2014

WO/2014/149117

The present invention describes a method of making a jet fuel composition comprising: providing a mineral-based kero/jet-type distillate component having certain enumerated physico-chemical properties, typically an off-spec jet fuel; providing a deoxygenated and dewaxed renewable component derived from triglycerides and/or fatty acids and having an isoparaffin to normal paraffin ratio from about 2: 1 to about 6: 1 and an aromatics content less than about 1 vol%; and blending from about 75 vol% to about 97 vol% of the mineral-based distillate components with from about 3 vol% to about 25 vol% of the renewable component to form an on-spec blended jet fuel composition.

[ver más...](#)





## DOWNSTREAM

### Evaluación de la composición del destilado de petróleo crudo

Publicada el 17/09/2014

US2014262957 (A1)

Methods are provided for characterizing crude oils, crude fractions, or other potential feedstocks for forming lubricating base oils in order to determine the suitability of a feedstock for lubricating base oil production. One type of characterization is to determine the isoparaffin, naphthene, and/or aromatics contents of the distillate portion of a feedstock. A second characterization is to determine the viscosity index of a distillate portion of a feedstock after dewaxing the distillate portion to a target pour point.

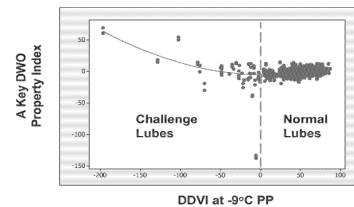


FIG. 3

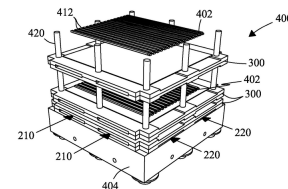
[ver más...](#)

### Dispositivo de membranas y proceso para el intercambio, separación y filtración de masa

Publicada el 28/08/2014

WO2014130779

A membrane device and processes for fabrication and for using are disclosed. The membrane device may include a number of porous metal membranes that provide a high membrane surface area per unit volume. The membrane device provides various operation modes that enhance throughput and selectivity for mass exchange, mass transfer, separation, and/or filtration applications between feed flow streams and permeate flow streams.



[ver más...](#)



## DOWNSTREAM

### Proceso de desasfaltado para la producción de materias primas para aplicaciones duales

Publicada el 27/08/2014

US2014238903 (A1)

The invention concerns with improved and more flexible deasphalting process for production of lube oil base stock as well as feed stock for secondary processes depending on requirement from heavy residual hydrocarbon oil containing saturates, aromatics, resins and asphaltenes etc by contacting the oil with a solvent comprising of hydrocarbon containing two to six carbon atoms, preferably LPG having C3-C4 hydrocarbons and mixture thereof at predetermined deasphalting conditions wherein the yield of deasphalted oil including its quality is controlled by varying the deasphalting conditions including the operating temperature.

[ver más...](#)

## DOWNSTREAM

### NOTICIAS

#### El Foro de Avances de la Industria de la Refinación, un reto para dar respuestas oportunas y eficaces

Publicada el 30/09/2014

A la luz de los cambios estructurales en los sectores energético y de refinación, el Foro de Avances de la Industria de la Refinación, organizado desde hace 20 años por el Instituto Mexicano del Petróleo (IMP) y Pemex Refinación, tendrá que seguir creciendo mucho más en los años por venir, porque es un ejemplo de persistencia y de centrar la atención de nuestras actividades, para asomarnos a las problemáticas, innovaciones y lecciones aprendidas de esta industria, expresó el doctor Vinicio Suro Pérez, director general del IMP, en la ceremonia inaugural de la vigésima edición de este foro y la décima de la Exhibición de Proveedores de Equipos, Insumos y Servicios para la Industria Petrolera, que se llevó a cabo el pasado 24 de septiembre en las instalaciones de este centro público de investigación.



[ver más...](#)

#### Pdvsa aplica nuevo sistema de bombeo para facilitar extracción de crudo en occidente

Publicada el 19/09/2014

La división occidente de Petróleos de Venezuela (Pdvsa) aplica con éxito el sistema de bombeo lineal, con el objetivo de facilitar la extracción de crudo en pozos de bombeo mecánico, que presentan problemas de alta fricción en el fluido de hidrocarburos. Estos modernos equipos fueron implementados desde el primer trimestre de 2014, para sustituir a algunos balancines que se empleaban en el campo Tía Juana, en la Costa Oriental del Lago (COL) de Maracaibo, estado Zulia, para extraer petróleo pesado, con alta viscosidad.



[ver más...](#)





## DOWNSTREAM

### **ESAI: Creciente capacidad de destilación para acelerar el cierre de refinerías**

Publicada el 04/09/2014

A wave of new distillation capacity over the next year will lead to additional refinery closures, particularly for operators in Europe, according to a recent report from ESAI Energy LLC. Compared with capacity growth of less than 300,000 b/d during the past year, the addition of nearly 2 million b/d in global distillation capacity over the next 12 months will undermine the profitability of marginal European refiners, who will be under pressure to reduce regional capacity by 250,000-300,000 b/d within the same period, ESAI Energy said in its recently published Global Outlook.

[ver más...](#)

### **Pemex apaga 30% del Sistema Nacional de Refinación**

Publicada el 03/09/2014

El 30.1 por ciento del Sistema Nacional de Refinación (SNR) de Pemex no se utiliza, de acuerdo con el Segundo Informe de Gobierno. El documento presentado ayer al Congreso de la Unión marca que el índice de utilización de la capacidad instalada en el SNR al cierre de junio de este año promedió 69.9 p...

[ver más...](#)



## DOWNSTREAM

### Se reanuda el procesamiento de petróleo crudo en refinería Achinsk

Publicada el 02/09/2014

OAo Rosneft has resumed crude oil processing at its 7 million-tonne/year Achinsk refinery in Bolshoy Uluy District, Krasnoyarsk Territory, Eastern Siberia, following a June 15 fire that shuttered operations at the plant (OGJ Online, June 16, 2014). The company restarted primary crude processing on a tight schedule at the refinery on Sept. 1, with the plant now producing straight-run gasoline, diesel fuel, marine fuel, and aviation fuel, as well as wide-light hydrocarbon fraction, Rosneft said. The plant's bitumen-producing VT-Bitumen unit also has resumed production concurrently with the restart of the refinery's primary crude processing, the company confirmed.

[ver más...](#)

### Rosneft progresa en el complejo de hidrotratamiento en la refinería de Syzran

Publicada el 29/08/2014

OAo Rosneft has received a reactor and cold high-pressure separator to be used in the construction of a planned diesel hydrotreating complex at its 8.5 million tonne/year Syzran refinery in Russia's Samara region. The 400-tonne reactor and 345.5-tonne cold high-pressure separator is the second shipment of bulk equipment delivered to the Syzran refinery for construction of the diesel hydrotreating unit, Rosneft said.

[ver más...](#)

## DOWNSTREAM

### Se desarrolla tecnología para mejorar el transporte de crudo extrapesado

Publicada el 19/08/2014

Ante la demanda de Petróleos Mexicanos (Pemex), de tener opciones para eficientar el transporte de aceite crudo pesado y extrapesado, el Instituto Mexicano del Petróleo (IMP), desarrolló una tecnología para la producción de bioproductos con propiedades de superficie, que mejoran tanto la viscosidad del aceite crudo extrapesado como su envío a través de ductos, que además minimiza problemas operativos como las caídas de presión, la precipitación de asfalteno o parafinas y proporciona una alternativa tecnológica al calentamiento o dilución con petróleo ligero, para poder transportarlo.



[ver más...](#)



## DOWNSTREAM

### MERCADO

#### Reporte sobre uso y rendimiento de oleoductos en los Estados Unidos

Publicada el 07/10/2014

In 2013, U.S. pipelines delivered 8.306 billion barrels of crude oil, an 845 million barrel or 11.3 % increase over 2012. Over the last 5 years, crude oil delivered by pipeline increased 1.351 billion barrels, a 19.4% increase. The U.S. Liquids Pipeline Usage & Mileage Report by the Association of Oil Pipe Lines and the American Petroleum Institute documents this and other increases in crude oil, refined petroleum products and natural gas liquids delivered by pipeline and mileage of those pipelines.

[ver más...](#)

#### YPF y Petronas firman acuerdo de \$550 millones sobre esquistos de Vaca Muerta

Publicada el 28/08/2014

YPF SA and Petrolia Nasional Bhd., state-controlled companies from Argentina and Malaysia, signed a \$550 million accord to develop shale oil at the world's fourth-largest deposit in Vaca Muerta. Miguel Galuccio and Shamsul Azhar Abbas, chief executive officers for YPF and Petronas, respectively, signed a deal to develop a 187-square kilometer area (72 square miles) at Petronas's Kuala Lumpur headquarters today, the Buenos Aires-based producer said in an e-mailed statement. YPF will invest \$75 million and Petronas \$475 million to drill more than 30 wells in three years in southwestern Argentina. Depending on the results the program could be expanded to a five-year \$1 billion investment, YPF said.

[ver más...](#)

## DOWNSTREAM

### LEGISLACIÓN

#### **Directiva 2009/126/CE del Parlamento Europeo y del Consejo, de 21 de octubre de 2009**

Publicada el 23/10/2014

COMMISSION DIRECTIVE 2014/99/EU of 21 October 2014 amending, for the purposes of its adaptation to technical progress, Directive 2009/126/EC on Stage II petrol vapour recovery during refuelling of motor vehicles at service stations.

[ver más...](#)



## DOWNSTREAM

### FINANCIAMIENTO

#### FITR 2013 Energía - Listado de evaluadores

Publicada el 29/10/2014

El Fondo Argentino Sectorial (FONARSEC) anuncia el listado de evaluadores de la convocatoria FITR 2013 sector Energía mediante Resolución de Directorio de Agencia N° 444/14 del 16/10/14.

[ver más...](#)

#### Crédito Fiscal 2014 - Proceso de evaluación

Publicada el 27/10/2014

El Fondo Tecnológico Argentino (FONTAR) anuncia los resultados del proceso de evaluación de la convocatoria Crédito Fiscal 2014 mediante la Resolución N° 530/14 del Directorio de Agencia.

[ver más...](#)

## DOWNSTREAM

### EVENTOS

#### Cumbre de petróleo y gas Argus-Elite Plus 2015

Publicada el 27/10/2014

18-19 march, 2015. New Delhi, India. India is at a crossroads regarding its energy security and strategy. A new political order recognises the country's emergence as a key energy demand centre. However strategic decisions have to be made about securing affordable energy supplies, investing in critical infrastructure and embarking on energy sector reforms that will encourage investment in new projects.



[ver más...](#)

#### 4ª Exhibición Internacional Erbil de petróleo y gas

Publicada el 21/10/2014

22-25 April, 2015. Erbil, Iraq. 3rd Erbil Oil & Gas Exhibition concluded on the 22st April 2015 with 50 exhibitors and 5000 visitor numbers. This was one of the massive events of Northern Iraq region dealing with oil and gas sectors. 3rd Erbil International Oil and Gas Exhibition hosted professional traders and delegates as trade visitors. Government associates, engineers and decision makers from natural oil company, construction sector, engineering construction & contracting services, financial services, project consultancy, repair services, trade associations, transportation, storage & handling came to the show in large numbers. For both regional and international companies, this exhibition provided a platform to assess the products and technologies available to local companies.



[ver más...](#)



## DOWNSTREAM

### Cumbre de petróleo y gas del Norte de África

Publicada el 09/09/2014

7-9 december, 2014. Algiers, Algeria. Officially supported by Sonatrach, the 9th edition of the North Africa Oil & Gas Summit is the most well-known and respected regional platform for C-level representatives of all the national oil and gas companies, governments and their international partners. Committed to improving regional oil and gas affairs and addressing the most pressing challenges; experience genuine debate, meaningful conversations, access to knowledge of best practices and unrivalled networking with your peers.



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