



Next Generation Of Oil Upgrading Services

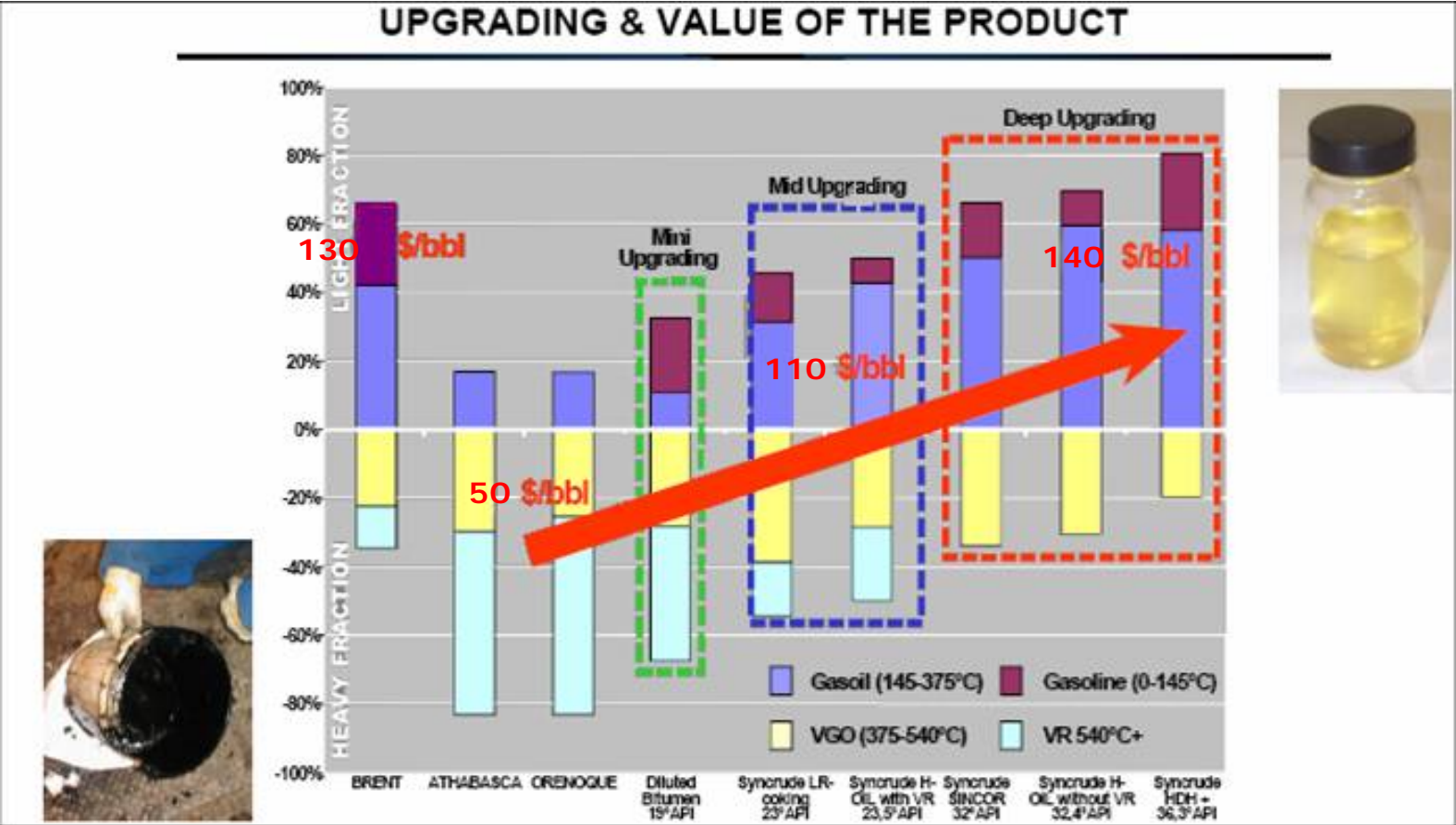
Pristec Plc.

Mission Statement



Pristec upgrading services makes heavy and extra-heavy crude oil exploitation and refining highly profitable.

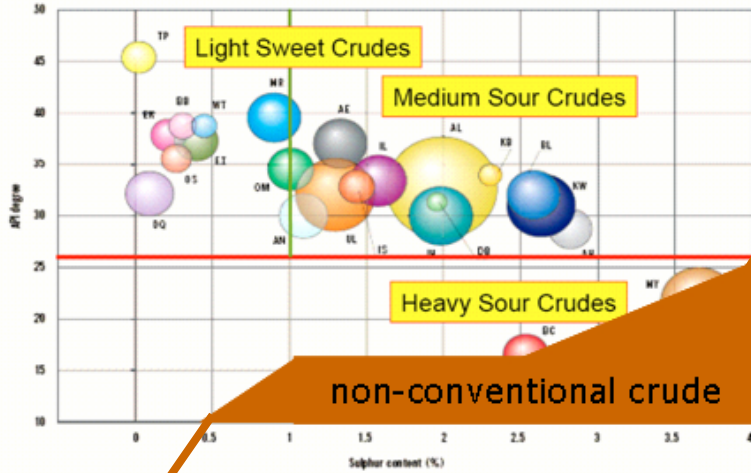
Pristec Upgrading Services can add up to \$80 per barrel at current prices.



Market potential is all heavy and extra heavy crude



World Crude Quality



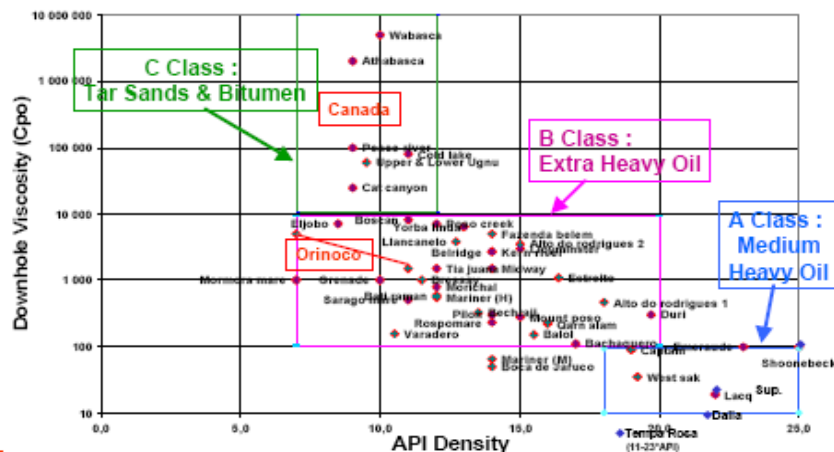
Heavy Oil Classification

- Confusing heterogeneous denominations :
 - Heavy Oil, Extra Heavy Oil, Oil Sands, Tar Sands, Bitumen,
 - **need for a simple classification**
- 4 Classes based mainly on downhole viscosity :
 - A Class : Medium Heavy Oil** $25^{\circ} > d^{\circ}API > 18^{\circ}$
 $100 \text{ cPo} > \mu > 10 \text{ cPo}$, *mobile* at reservoir conditions
 - B Class : Extra Heavy Oil** $20^{\circ} > d^{\circ}API > 7^{\circ}$
 $10\,000 \text{ cPo} > \mu > 100 \text{ cPo}$, *mobile* at reservoir conditions
 - C Class : Tar Sands and Bitumen** $12^{\circ} > d^{\circ}API > 7^{\circ}$
 $\mu > 10\,000 \text{ cPo}$, *non mobile* at reservoir conditions
 - D Class : Oil Shales**
 Reservoir = Source Rock, no permeability
 Mining Extraction only

- Non-conventional crude exploitation changes picture
- Major resource owning region North and South America
- Additional exploitable heavy crude resources:

- Heavy/extra-heavy crude Orinoco Venezuela 2,030 GB
- Oil sands Alberta Canada 1,675 GB

Heavy Oil Classification



Bitumen & Extra Heavy Oil Resources: Original Oil in Place

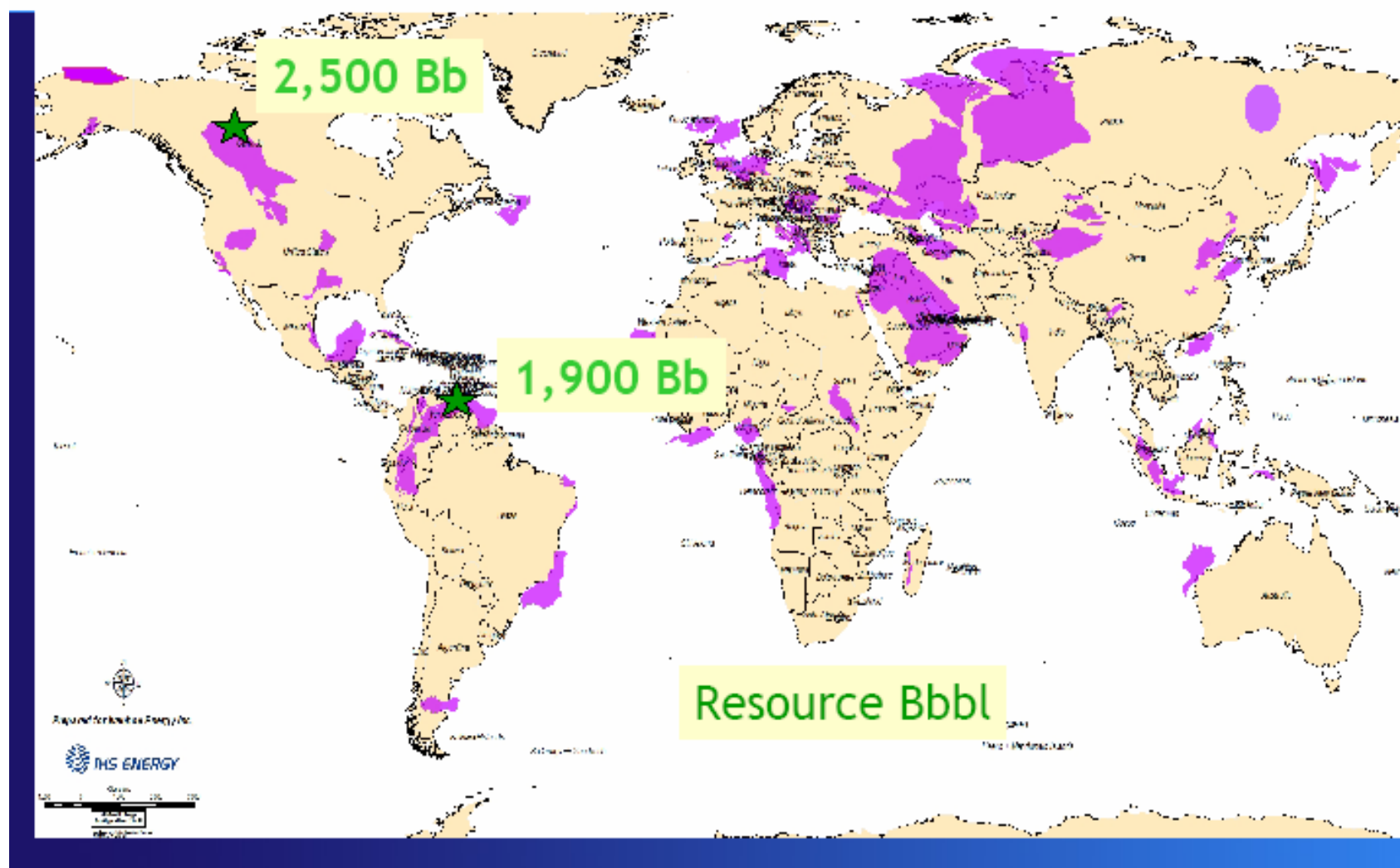
	Bitumen	Extra heavy oil
Africa	428	1
N America	1,675	1
S America	1	2,030
Asia	264	2
Europe	203	7
Middle East		23
	Mostly in....	
	Bitumen	Extra heavy oil
Africa	Nigeria	Egypt
N America	Canada	USA
S America	T & T	Venezuela
Asia	Kazakhstan	Indonesia
Europe	Russia	Alb/It/UK
Middle East		Iran

~ 4,600 GB Discovered Original Resource In place

Resource Plays Basins With Heavy Oil & Bitumen



IC



Pristec „activator“ - family



Pristec „activator“- technologies...

- boost crude oil API
- reduce sulfur content
- improve viscosity and increase fluidity
- cause diffusion attribute



...and therefore ease cost- effectively extra-heavy... ..resulting in...

- crude oil exploitation,
- upgrading,
- transportation,
- refining and reprocessing to light products

- an increased exploitable quota
- an increase in total revenue per barrel up to 300% through quality improvement
- an higher output of light products produced by refineries powered by Pristec technologies!

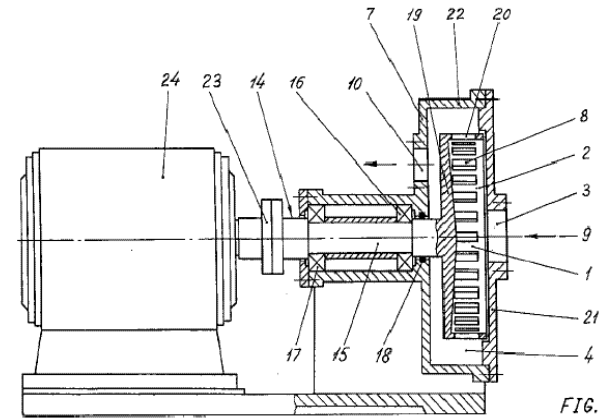
Technology Fundamentals: Activation

The Activator technology family consists of **mathematical and physical methods and devices** to perform the methods in practice. Pristec provides three generations basing on similar scientific principles, allowing a wide range of possible upgrading applications.

The “Activation” of hydrogen, carbon and sulfur in hydrocarbon liquids performs a **mechano-chemical transformation** in its molecular structure and results in the effect that the electron of the incited atom is spun to a **higher orbit**. Thus the incited atom receives a negative electric charge and the molecular structure is cracked up. The radical element in consequence connects in **new chemical bonds** to even up the negative charge.

The Activator I device consists of a wheel with lamellae that is driven by an electric motor at approximately 3.000 rounds per minute. The form of the wheel produces **resonance energy** with specific **frequencies** per chemical element that impacts the **sub-atomic (quantal-) level** of the incited element within the processed liquid. The relation between the radius of the wheel, the produced resonance energy and its frequency with the structure of specific elements could be discovered and applied in practice for the elements

- **Hydrogen**
- **Carbon**
- **Sulfur**



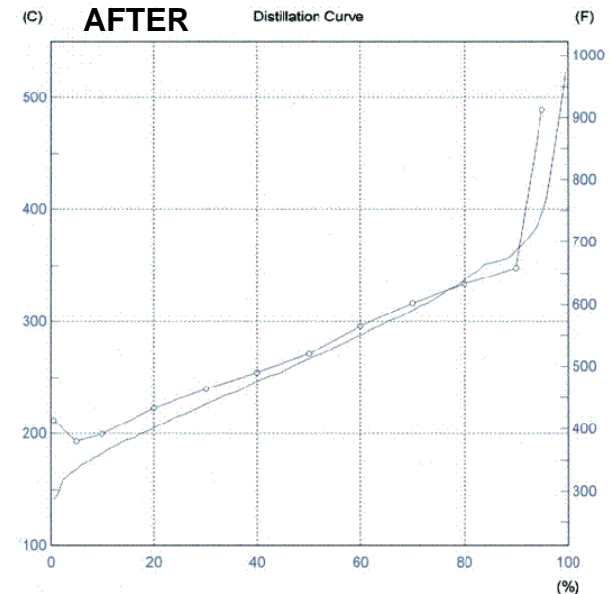
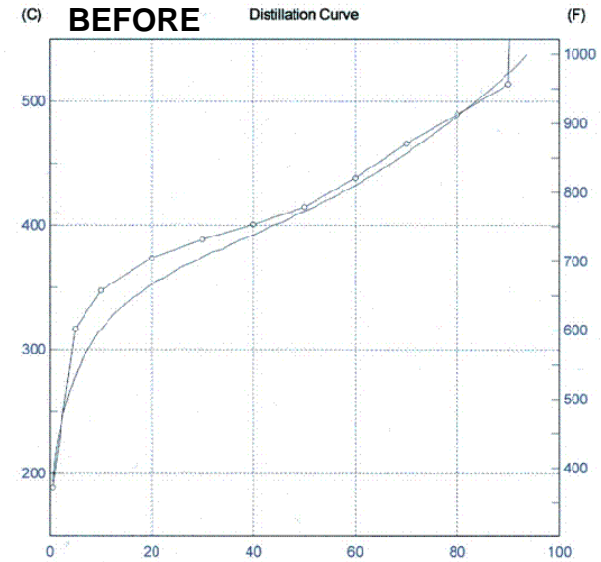
Generation II: cold cracking & Sulphur removal



The **Activator Generation II** consists of a cold cracking unit and a desulphurisation unit.

Depending on the viscosity of the processed hydrocarbon liquid, the **cold cracking unit** works at oil temperatures between 40 and 110°C and viscosities below 1.500 mPa s. Within the unit **high voltage frequencies** around 110 kV are applied with frequencies in the area of 1 to 10 ns to produce the necessary resonance frequency spectrum. The **electric plasma** produced this way also cracks up process water which is added 0.5 to 5% in order to receive hydrogen saturation and a stable output product.

The activated hydrocarbon is then forwarded to the **desulphurisation unit**, that is using rotating electromagnetic fields with around 2.700 rpm. The fields are rotating around the process tube and is reacting with the **ferromagnetic particles** within the tube. In correlation with the throughput speed the ferromagnetic particles cause an **electromagnetic field chaos** within the tube causing an effect similar like cavitation, resulting in the partial **elementary destruction of Sulphur**. The process can be repeated several times in sequence to obtain optimized desulphurisation results. Best result achieved with crude is a reduction by 75%, applied for fuels by 90%.



Generation III: vacuum energy based molecular transformation



The **Activator Generation III** bases on novelty scientific findings of quantum mechanics and field theory. The operation at the **vacuum energy level** allows to connect to the neutron level of atoms allowing to impact on their inner electron and proton balance system. **"Tearing out of vacuum energy"** results in a slowdown of electron spin, a widening of spin orbits and therefore the reduction of bonding strength. **"Pumping in of vacuum energy"** results in the opposite effect, acceleration of electron spin, tightening of electron orbits and activation, so quanta spins to higher orbit levels.

Within the vacuum field **spin structure information waves** are channeled to transmit bond structure information into the product stream. Special laser technology is the transport medium functionalized for this purpose.

In a **three step process**, vacuum energy is pumped out of the liquid to **loosen molecular bond strength**, plasma generators are used to crack up the liquid to **highly critical atomic plasma** and in the last step vacuum energy in combination with spin information waves are applied to **transmit the desired molecular structure** to the plasma stream, resulting in a restructuring to a maximized output of Gasoline OR Diesel and the preparation of Sulphur for elementary separation and extraction.

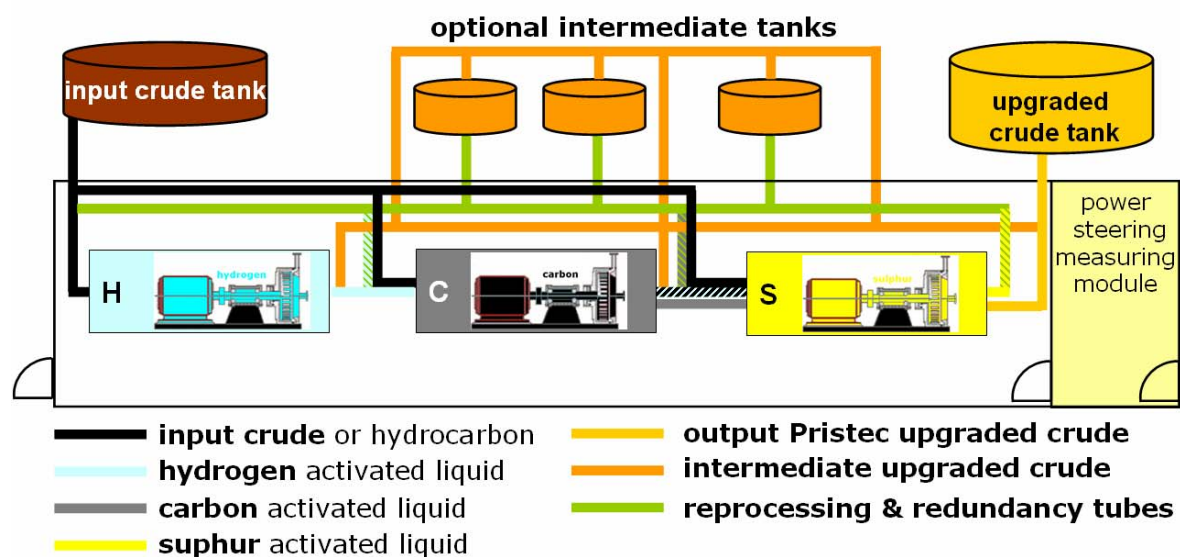
Applied in combination with Generation II in order to...

- ...produce activated process Diesel
- ...deactivate process water for hydrogen saturation
- ...optimise desired fraction output
- ...program Sulphur conduct for elementary destruction, or recombination to H₂S or elementary Sulphur for separation

Product Offer & Modular Service Package



Scheme Activator Module 7.5Mbd



- modular product package for easy upscale of capacity
- redundant design and facility stability at 99.5% SLA
- internal flexibility and easy adapting to implemented configurations
- data module for steering, measurement and process data control
- Integrated alarm & security system



Strategy & Business model

- as the activator device is not available on the world market as an investment good, the technology can only be applied as a service
- for supplying and operating of the activator facilities, Pristec charges a percent of the upside improvement Pristec realizes for the partner per upgraded barrels
- capital intensive investments in conventional upgrading equipment can be saved – Pristec invests and runs the necessary equipment
- significantly higher net income for the partner because operative costs for Pristec upgrading and Pristec fees for the services are a fraction of operative costs of conventional upgrading technologies



Pristec crude upgrading offering

No investment and operative costs for the customer:

- Pristec takes all capital expenditures needed for Pristec technological upgrading
- Pristec operates the upgrading device at its own account

in return

Pristec charges

per barrel per upgraded API grade

Pristec refinery upgrading offering

No investment and operative costs for the customer:

- Pristec takes all capital expenditures needed for Pristec technological upgrading and the operating
- Pristec delivers higher processing depth

in return

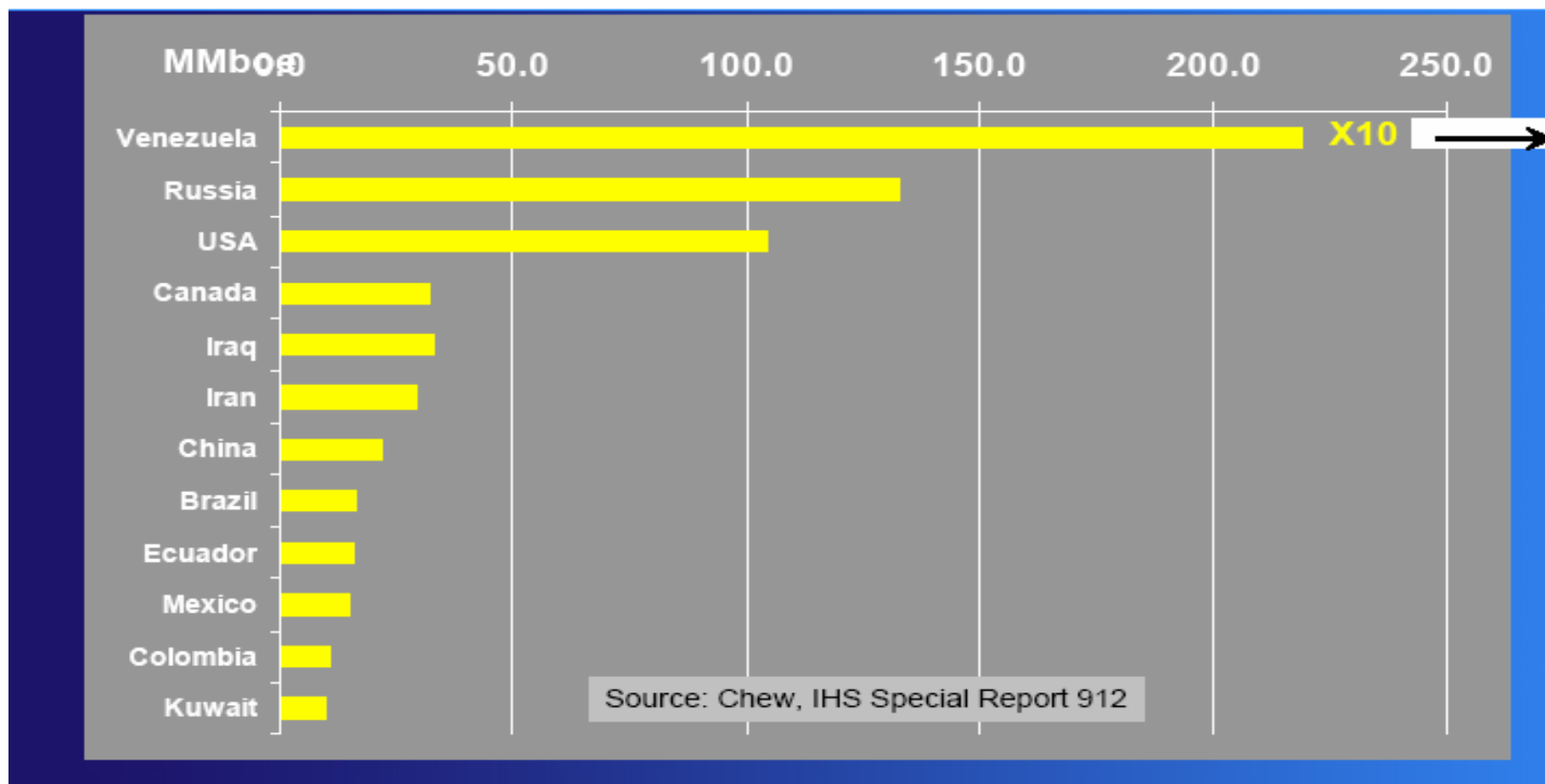
Pristec charges

per barrel per increased percent processing depth (light products)

Market Potential is all Heavy and Extra Heavy Crude



Heavy Oil Resources By Country

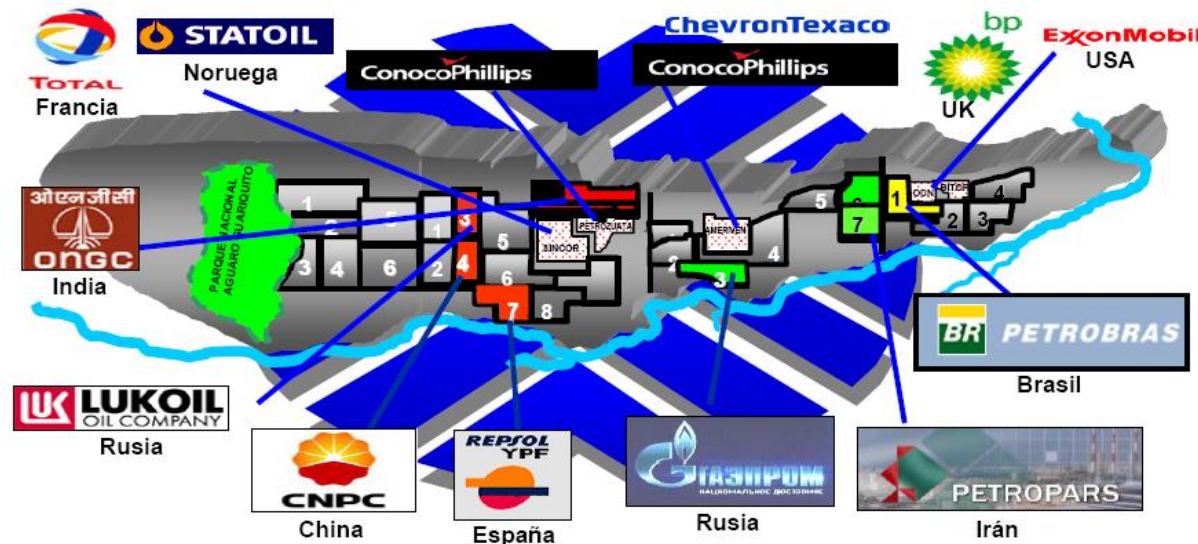


Pristec is focusing on the most important resource owning region – Orinoco Belt



- A **central upgrading platform** processing 5.800.000 barrels per day will be realized
- world market leading oil corporations obtain exploitation licenses in consortia led by PDVSA
- **Pristec technologies** promise to significantly **support** the **Venezuelan strategy** in main parts of the value chain:
 - **Significantly less** investment and operative costs necessary to realize the *central upgrading platform*
 - **Significantly less** *transport costs* for upgrading pipeline network and simultaneous upgrading
 - **Significantly less** investment and operative costs necessary to *adapt* Latin American *refineries* to process Orinoco crude to a processing depth of up to 85%
 - **Significantly higher** possible *exploitable quota* using activated crude as a fluidizer enlarging Venezuelan exploitable resources from 12-15% (PDVSA estimation) to 25 % (Pristec estimation) => 65 Gt making Venezuela world biggest resource owner

Central upgrading platform Orinoco



Plan PDVSA & Venezuela overview



- improving the heavy crude in terms of API grades
- diminishing the viscosity of heavy and ultra heavy crude which are the main feature of the Orinoco fringe, for enhancing its transport by diminishing the requirements of the solvents
- reduction of viscosity in the residual of refineries
- treatment and recycling of oil sludge, contaminated mud, acid residuals and others residuals coming from exploitation and crude's refinery



Resolución 12.8 Para la ejecución de cada proyecto que los países accionistas desearan, se deberán presentar, independientemente, planes ejecutivos de los proyectos correspondientes. En cada caso, se fijará los términos y condiciones técnicas en cuanto a desarrollo de proyectos.

Resolución 12.9 Todos los modificaciones que deban ser acordadas bajo este Memorandum se harán por escrito y serán aprobadas en forma unánime, salvo excepciones, antes, antes y después de:

(i) No se dirigirá a INTEVEP:
 Ing. Yago Martínez
 Director, PDVSA INTEVEP
 Caracas, Venezuela
 Tel: (512) 2207149
 E-mail: ymartinez@intevep.com

(ii) No se dirigirá a Pristec:
 André Vanneste Elvira
 Presidente Pristec Latinoamérica
 Santiago, Chile
 Tel: (562) 22044000
 E-mail: avanneste@pristec.com

Resolución 12.8 Las decisiones, acciones, resoluciones y de fe, para modificaciones, serán aprobadas por el Comité de Coordinación Conjunta, el cual será integrado por los representantes de PDVSA INTEVEP y Pristec, en un número no menor a los miembros de cada una de las partes.

Resolución 12.9 El presente Memorandum se ejecutará por los países de la República Bolivariana de Venezuela.

Este Memorandum de Entendimiento se suscribió en la ciudad de Caracas, el día 24 de Noviembre del año 2006.

Por PDVSA INTEVEP: Yago Martínez
 Por Pristec: André Vanneste Elvira

The Pristec's technologies promise to improve the quality of the heavy and ultra heavy crude of the Oil Girdle of Orinoco which should create substantial savings of resources and investment for its refinery and an increase in the profitability of a trade of this crude. As a result, the appliance of the technology of Pristec should support (strengthen) current strategy of PdVSA aimed to integrate all Latin American in using (exploiting) oil located in the Orinoco's girdle and thus consolidate the integration process of the entire Latin America and Caribe.



6. Relación de cooperación entre ACIBS y Pristec

Dado que las relaciones de carácter técnico relacionadas con el desarrollo sostenible son esenciales, las dos partes se comprometen a establecer una alianza estratégica para el desarrollo de los fines de los proyectos relacionados con el desarrollo del petróleo en Venezuela, Latinoamérica y el mundo.

2. Participación en el Comité de Coordinación Conjunta

En el artículo II del Memorandum de Entendimiento firmado el 24 de noviembre de 2006 entre PDVSA INTEVEP y Pristec se establece un Comité de Coordinación Conjunta que tomará las decisiones necesarias para la aplicación de la tecnología aportada por Pristec. El Memorandum de Entendimiento firmado por los representantes de PDVSA INTEVEP y Pristec. Las decisiones del comité deberán ser tomadas por ambas partes de manera unánime.

Debido a la naturaleza política de la tecnología aportada por Pristec y su alianza estratégica con la ACIBS, Pristec se reserva el derecho de nominar a una persona como parte de los tres miembros de Pristec en este Comité. La designación del miembro aportado por la ACIBS se realizará después de los 10 días siguientes de firmado el Memorandum de Entendimiento entre PDVSA INTEVEP y Pristec.

3. Establecimiento y Administración del Fondo para el Desarrollo Sostenible

Tomando en cuenta los artículos 2 y 4 del Artículo I de la presente Carta de Intención Pristec plantea constituir junto con ACIBS el Fondo de Desarrollo Sostenible. Para la conformación del Fondo se creará un Comité de Coordinación en el que ambas representaciones constituirán Pristec y la ACIBS. Las acciones del Fondo se llevarán a cabo de acuerdo con las opiniones de la tecnología Pristec y se cubrirán las acciones relacionadas por Pristec.

Los ingresos del Fondo, se calcularán en base a los beneficios netos que se obtengan en la aplicación de la tecnología Pristec. Los ingresos que se le ingresen al Fondo se acumularán cada seis meses y el Comité de Coordinación evaluará los proyectos que serán financiados por el Fondo para maximizar su impacto en relación con el principio de desarrollo sostenible.

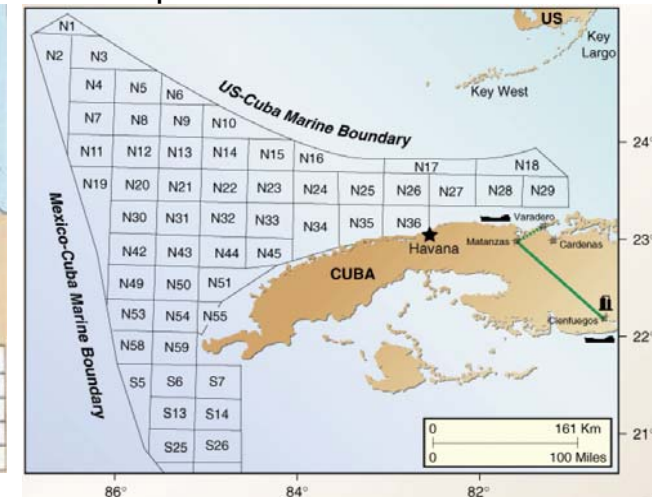
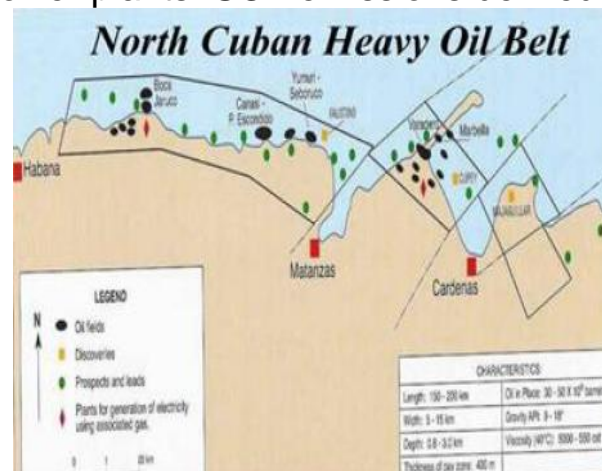
Por parte de Pristec Internacional Plc: Andrés Vanneste Elvira, Chief Operating Officer
 Por parte de Agencia de Cooperación Internacional Simón Bolívar: Fernando Casado, Director
 Andrés Vanneste Elvira, Pristec Internacional
 Fernando Casado, Simón Bolívar

Caracas, 24 de noviembre 2006

Operative Focus: Cuba

Cuban extra-heavy sour crude resources

Cuba has cautiously opened up its economy for foreign investment after the crisis in the early 90ies restricted to basic industries (oil, energy, mining) and tourism. Foreign companies can invest and perform business in joint operation with nationalised Cuban corporations. Cuba's most significant heavy oil resources can be found on the north-eastern coast. Latest estimations show 18 billion barrels exploitable resources in place, including submarine territories (6 billion barrels) in the Gulf of Mexico. Installed heavy oil production capacities account for 32 million barrels per year, whereof 18 million are currently used. Cuban extra-heavy sour crude is the worst crude quality produced so far, with 7.8°API and Sulphur content of 7.9 Vol.%. The Asphaltene content of more than 20% made it impossible to refine that crude with conventional refining technologies. The Cuban production infrastructure consists of a system of wells and collectors for primary upgrading, the collectors are connected via pipeline to Matanzas, the biggest oil terminal for international and domestic oil logistics. In Matanzas the extra-heavy sour crude is blended with up to 15% Diesel in order to achieve desired viscosity and calorific values. Due to the lack of upgrading technology, the blended crude is used directly as fuel for calorific power plants. SO₂ emissions derived from that production account for more than 1 million tons per year.



Plan CUPET & Cuba overview



- ANNEX 6-

ACCOUNTS RECEIVABLE OF IDENTIFYING PROJECTS FOR THE APLICACION OF THE TECNOLOGY OF THE ACTIVATOR IN CUPET AND ITS IMPLEMENTATION.

Project A: Industrial Application of the Technology for the Reduction of the Viscosity to the residues in the Cuban Refineries. Decrease of the utilization of diluents.

Project B: Decontamination and recycling of resultants, toxic residues of the processes of Refining. (Gudrun Acid).

Project C: Definition of the parameters of Operation and industrial application of the technology for the increment of the performances of clear products in the process of Refining of the Cuban Refineries.

Project D: Development of the parameters of operation and of the technological solutions required for the reduction and extraction of the contained sulfur in the Cuban National crude Oil and its industrial application.

Project E: Industrial Application of the technology for the decrease of the viscosity of the national crude Oil that are produced in the deposits of dry Dock and Western zone of the Country.

Project F: Reinjection of crude Oil activated, utilizing them as diluents in apparently dry wells or of little production. The projects were affected for phases and they have been you defined the same as continues:

Phase 1: Experimental demonstration of the potential of the technology in the place of development of the pilots selected.

Phase II: Demonstration of the results in the semi-industrial environment.

Phase III: Industrial application to level of the existing technology in Cuba, so much in production, like refining.

In City from Havana to the 8 days of November of 2007

By CUPET S.A

Arlés Ojeda Hernández
Comercial Director

Margarita Valido Muñoz
Financial Director
America

By PRISTEC

Rudiger Uwe Nurk
Chief Executive officer

Anibal Veneciano Rivera
President for Latin

Model and main of operations of joint business with Pristec.

Pristec possesses the right of exclusive use on all the existing patents and you Wall and its respective know-how of the Technology of the Activator. Pristec has the right of resale on no right of copyright or devices to implement the technology, to third parts. Pristec assumes all the costs for the construction and implementation of the devices and modules of the Activator and operated modulate them to its own cost. The service of improvement executed in each area of application will not have costs for Cupet. The criteria and most minimum objectives will be established of way such that an additional most minimum value of 6 USD by barrel processed in the current processes up and 4 USD in the current processes down. The floor price that Pristec charged to cover the investment and the costs is 3 USD by barrel in current processes up and 2 USD in the current processes down.

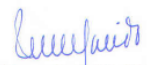
In the case that alone they are reached the most minimum objectives, Pristec discounted these floor prices by the operation of the service of improvement in its totality. If the most minimum objectives are surpassed in the results, the total of the additional value created should be distributed among the parts. Pristec proposes a quota of profit 40/60 (Pristec/Cupet) for joint operations to 5 years, 30/70 (Pristec/Cupet) for joint operations to 10 years and 25/75 for joint operations to 20 years.

UNO EN PRODUCCION, COMO TECNOL. 9/8

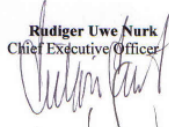
En Ciudad de la Habana a los 8 días de noviembre de 2007

Por CUPET S.A.:


Arlés Ojeda Hernández
Director Comercial


Margarita Valido Muñoz
Directora Financiera

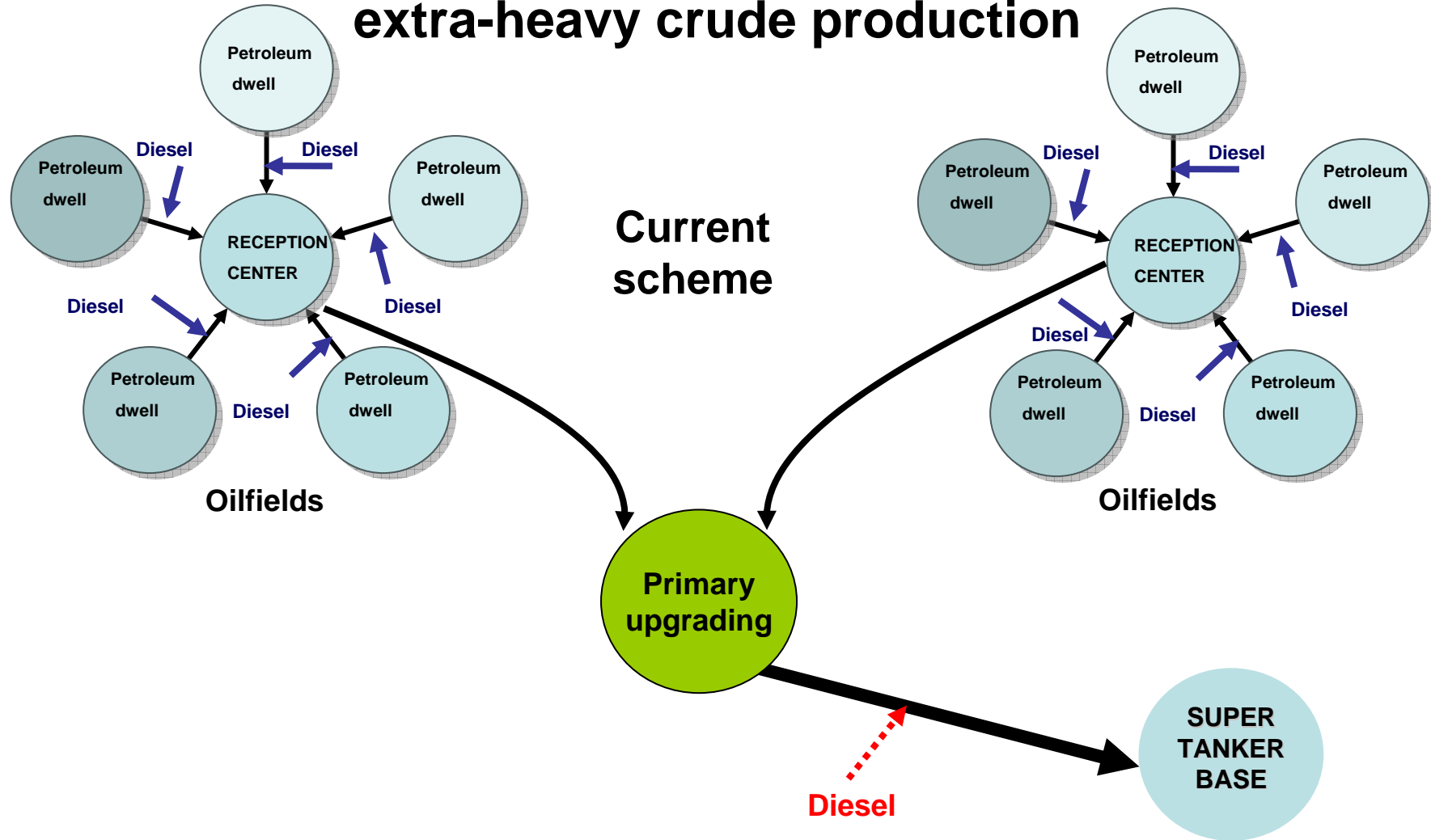
Por PRISTEC:


Rudiger Uwe Nurk
Chief Executive Officer


Anibal Veneciano Rivera
Presidente Pristec Latinoamérica

Current production scheme Cuba

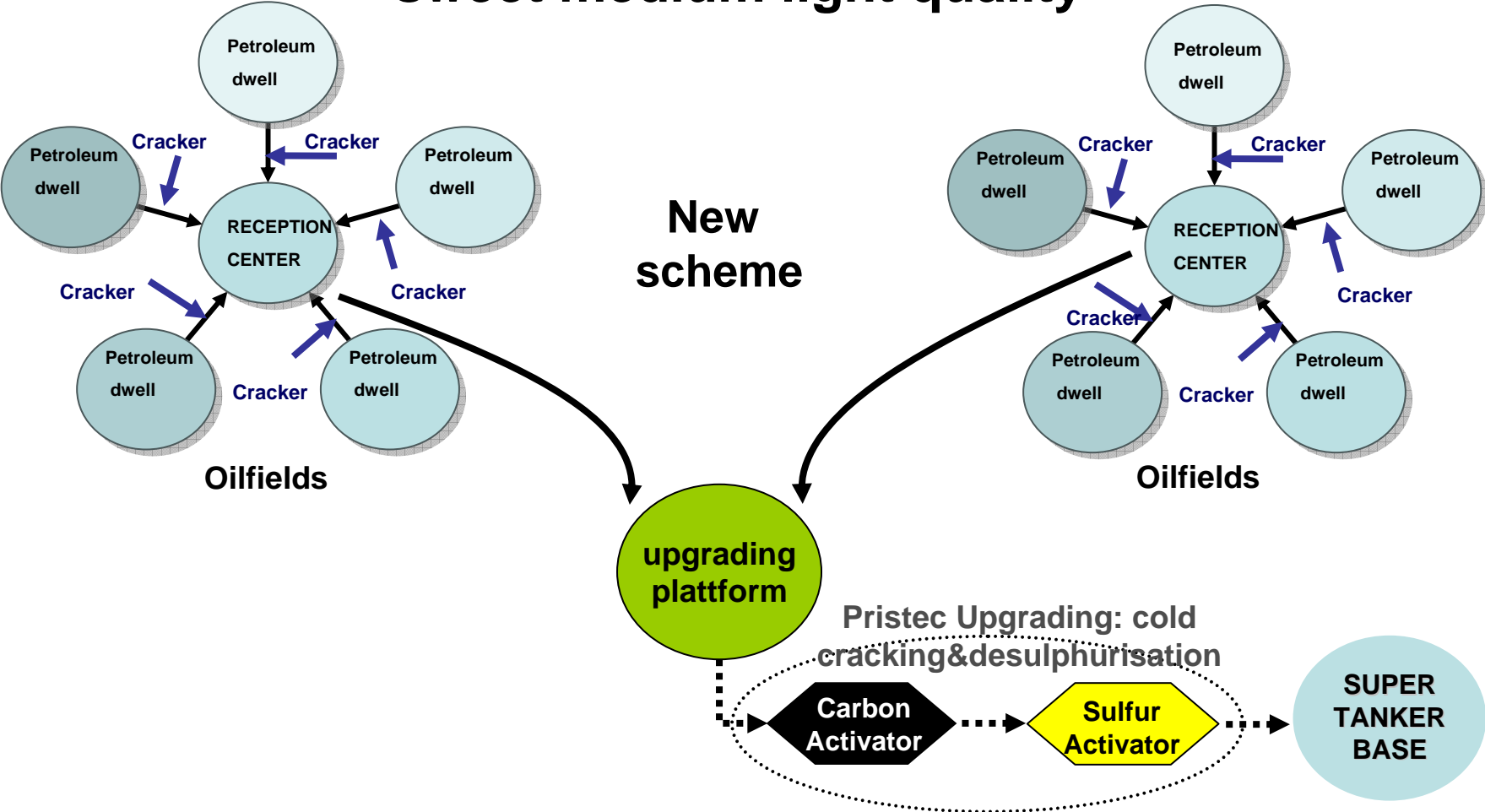
Scheme for the viscosity reduction of extra-heavy crude production



Transformed production scheme



Scheme for the viscosity reduction and upgrading to sweet medium light quality



Economics of Upgrading Plattform



	Type of Crude Oil	API	Sulfur	Value Brent	Gasoline	Diesel	Fuel oil	Residual
Input	Extra Heavy Sour Crude	7,7	8,0 %	- 70%	5 %	15 %	15 %	65 %
Output	Light Crude	30	1,5 %	- 5 %	25 %	50 %	15 %	10 %
	Difference	23,3	6,5 %	65% = ~ \$ 70	+20 %	+35 %	0 %	-55 %

- The value creation per barrel will be 65 % of brent crude oil = ~ \$ 70 ~ € 43
- Investment costs are \$ 550 ~ € 340 per installed barrel per day means € 34 Mio for 100.000 barrels per day
- Operating costs are \$ 1 ~ € 0,63 per barrel
- Capacity: 100.000 barrels per day 36 Mio barrel per year
- Deprecation & Amortization € 0,23 per barrel
- Operating costs € 0,64 per barrel
- Pristec Share Value Creation 25% of € 43 ~ € 10,75 per barrel

Economics of Upgrading Plattform



Projection Cuba 100.000 barrels per day, 25% Pristec profit share

income statement yearly	2008	2009	2010	2011	2012
<i>sales</i>	-	146.711.250	342.326.250	391.230.000	391.230.000
revenues	-	146.711.250	342.326.250	391.230.000	391.230.000
<i>license fees</i>	-	13.500.000	31.500.000	36.000.000	36.000.000
gross margin	-	133.211.250	310.826.250	355.230.000	355.230.000
<i>personnel expenses</i>	-	3.003.651	6.082.393	6.386.513	5.029.379
<i>other operating expenses</i>	- 43.000	6.336.404	14.731.703	16.582.363	16.779.238
<i>depreciation & amortization</i>	- 131.250	2.845.450	7.138.563	7.145.550	7.998.675
EBIT	- 174.250	121.025.745	282.873.591	325.115.575	325.422.709
<i>dividend income</i>	-	-	-	-	-
<i>interest income</i>	-	611.258	3.735.582	8.540.533	13.028.203
<i>interest expenses</i>	- 21.251	135.807	-	-	-
financial result	- 21.251	475.451	3.735.582	8.540.533	13.028.203
EBT	- 195.501	121.501.196	286.609.173	333.656.107	338.450.911
<i>income taxes</i>	-	30.326.424	71.652.293	83.414.027	84.612.728
net income	- 195.501	91.174.772	214.956.880	250.242.080	253.838.183
<i>accumulated income</i>	-	195.501	90.979.271	305.936.151	556.178.232
retained earnings	- 195.501	90.979.271	305.936.151	556.178.232	810.016.415

Economics of Upgrading Plattform



Projection Cuba 100.000 barrels per day, 25% Pristec profit share

cash flow statement yearly	2008	2009	2010	2011	2012
<i>net income</i>	- 195.501	91.174.772	214.956.880	250.242.080	253.838.183
<i>depreciation & other non-cash income/expenses</i>	131.250	2.845.450	7.138.563	7.145.550	7.998.675
<i>changes in working capital</i>	5.100	15.123.511	- 5.453.109	- 31.154.393	- 11.031.781
cash flow from operating activities	- 59.151	109.143.733	216.642.333	226.233.238	250.805.077
<i>payments made for investments in fixed assets</i>	- 1.050.000	- 13.800.500	- 13.789.750	-	- 5.250.000
<i>payments made for investments in financial assets</i>	-	-	-	-	-
cash flow from investing activities	- 1.050.000	- 13.800.500	- 13.789.750	-	- 5.250.000
<i>changes in equity</i>	100.000	5.000.000	-	-	-
<i>changes in borrowings</i>	1.066.100	- 1.066.100	-	-	-
cash flow from financing activities	1.166.100	3.933.900	-	-	-
change in cash funds	56.949	99.277.133	202.852.583	226.233.238	245.555.077
<i>cash at the beginning of the period</i>	-	56.949	99.334.082	302.186.665	528.419.903
cash at the end of the period	56.949	99.334.082	302.186.665	528.419.903	773.974.980

Economics of Upgrading Plattform



Projection Cuba 100.000 barrels per day, 25% Pristec profit share

Annual figures	2008	2009	2010	2011	2012
processed barrels per year	-	13.500.000	31.500.000	36.000.000	36.000.000
Installed daily capacity	-	50.000	100.000	100.000	100.000
accumulated investments	€1.050.000	€14.850.500	€28.640.250	€28.640.250	€33.890.250
headcount total	-	100	194	194	194
Management		2	5	5	5
Team leader		14	27	27	27
Production		84	162	162	162
Turnover/employee	-	€1.462.238	€1.769.128	€2.021.860	€2.021.860

Key Figures	2008	2009	2010	2011	2012
ROI	-35,6%	188,9%	119,0%	72,0%	48,7%
ROS		82,9%	83,7%	85,3%	86,5%
Equity-Ratio	-9,8%	75,2%	87,9%	97,9%	99,6%
ROE	409,4%	253,2%	140,8%	76,5%	49,2%
FCF	- 1.093.213	95.445.088	202.852.583	226.233.238	245.555.077
Entity Value	33%	449.469.834			
Shareholder Value		449.469.834			

Overview Business Development



Contracted Actionplan Pristec Group			
Contracting Partner	Operation Rollout	Type of Project	Capacity in barrels per day
Upstream			
Venezuela (PDVSA)	Q4/2008 → Q2/2012	Upgrading of extra-heavy Orinoco crude	800.0 00 bbl
Cuba (CUPET)	Q3/2007 → Q4/2010	Upgrading of extra-heavy sour crude	100.0 00 bbl
Brazil (PETROBRAS)	Q1/2009 → Q3/2011	Upgrading of heavy high viscosity crude	500.0 00 bbl
Downstream			
Cuba (CUPET)	Q4/2008 → Q4/2011	Refining of extra-heavy sour crude	100.0 00 bbl
Venezuela (PDVSA)	open	Enlargement of capacities for gasoline production	open

Contract negotiations and business development activities were initiated with the governments and oil authorities of **Columbia, Kazakhstan** and key countries in the **Middle East and North Africa**.

Funding needs and use of Funds



Use of Funds

Activity	(EUR M)
Operating Expenses	8,00
Business Development	4,00
Development of Pristec Process Technology	5,00
Industry Roll-Out Cuba	35,00
Industry Roll-Out Middle East Reference	35,00
Industry Pilot Venezuela	3,00
Industry Pilot Brazil	3,00
Industry Pilot Syria	3,00
Industry Pilot Oman	3,00
Industry Pilot Saudi Arabia	3,00
Total	102,00