

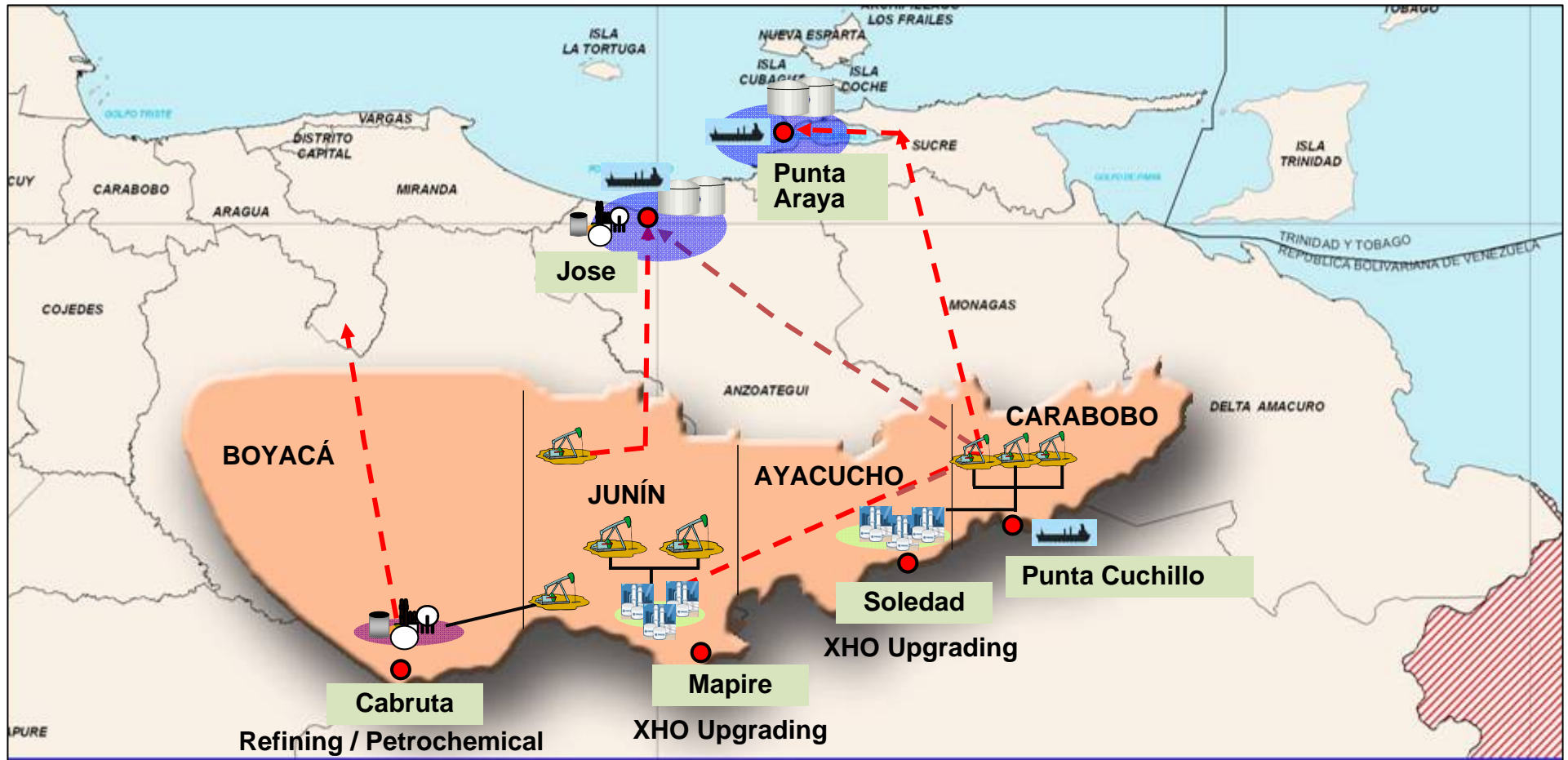


# Heavy Oil in Venezuela

## Challenges & Perspectives

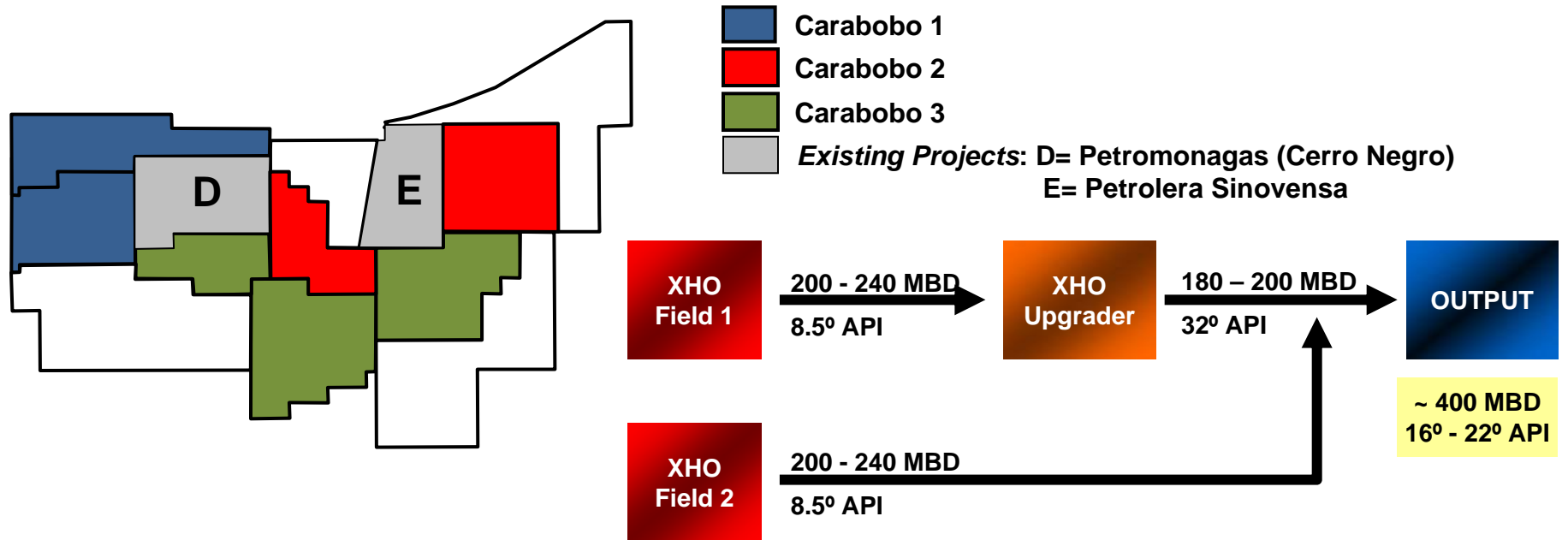
**La Jolla XIX Latin American Energy Conference**

IPD Latin America  
May 11, 2010

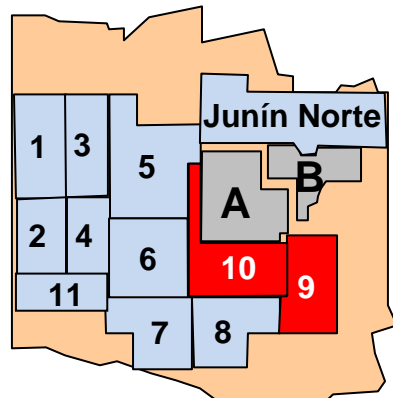


<b>Upgraders</b>	<b>Refineries</b>	<b>Production Fields</b>	<b>Marine Terminals</b>	<b>Storage</b>	<b>Oil pipelines</b>			
6 Upgraders	2 Refineries (Cabruta and Jose)	520 Clusters 10.570 Wells	<ul style="list-style-type: none"> <li>Punta Araya (liquid)</li> <li>Punta Cuchillo (solid)</li> <li>Jose revamp</li> </ul>	<ul style="list-style-type: none"> <li>750 MBBL: 28</li> <li>500 MBBL: 5</li> </ul>	<u>Km</u>	<u>Ø</u>	<u>Km</u>	<u>Ø</u>
					135	16"	135	34"
					332	24"	360	36"
					100	26"	940	42"







Source: PDVSA

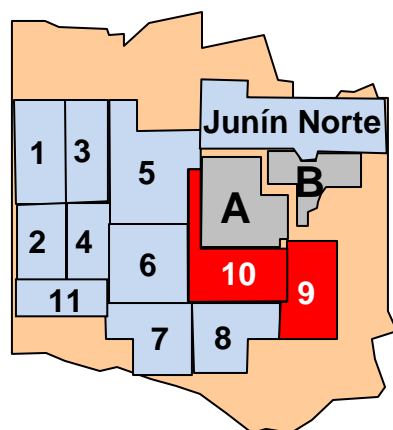


Block	Consortium	Bonus (US\$ million)	XHO Estimate production (MBD)	Comments
Carabobo 1	PDVSA (60%) / Repsol (11%) / Petronas (11%) / ONGC (11%) / Indian Oil (3.5%) / Oil India (3.5%)	1,050	400	Awarded on February 10, 2010. Includes the construction of a 200 MBD XHO upgrader.
Carabobo 2			400	Not awarded
Carabobo 3	Pdvsa (60%) / Chevron (34%) / Mitsubishi (2.5%) / Inpex (2.5%) / Suelopetrol (1%)	500	400	Awarded on February 10, 2010. Includes the construction of a 200 MBD XHO upgrader.







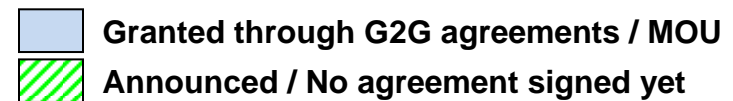
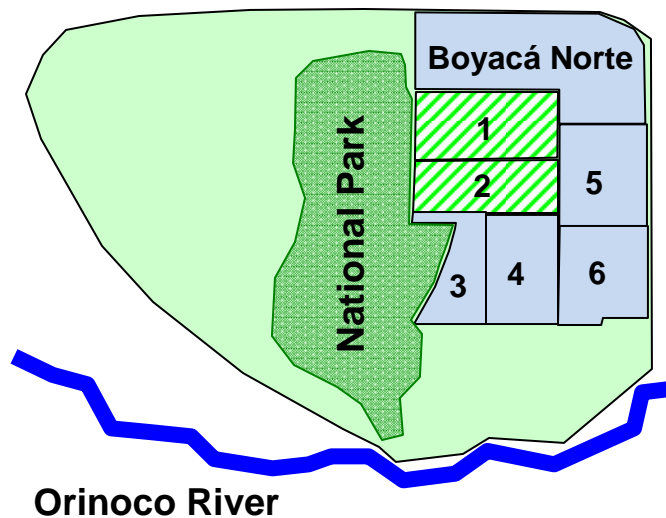
- PDVSA
- Granted through G2G agreements / MOU
- Existing Projects: A= PetroCedeño (Sincor)  
B= PetroAnzoátegui (Petrozuata)






Block	Company / Country	Bonus (US\$ million)	XHO Estimate production (MBD)	Comments
Junín Norte	ONGC 		35 (Current)	MOU for quantification and certification of reserves (January 24, 2007)
Junín 1	Belarus 			MOU for the quantification and certification of reserves (July 24, 2006)
Junín 2	PetroVietnam 	580	200	Mixed Company (PetroMacareo) was approved by the National Assembly in December, 2008. Certified reserves: 10.25 bn BBL
Junín 3	Lukoil 		200	Joint Study for technical and commercial proposals for developing Junin 3 block (July 23, 2008). Certified reserves: 5.6 bn BBL
Junín 4	CNPC 	900	400	First agreement signed in May 2008. Second MOU signed on April 17, 2010. Certified reserves: 12.92 bn BBL
Junín 5	ENI 	646	200	Agreement for the development of Junín 5 block (January 26, 2010). The agreement includes the construction of a 300 MBD refinery in Jose and a 1,000 MW power generation plant in Güiria.

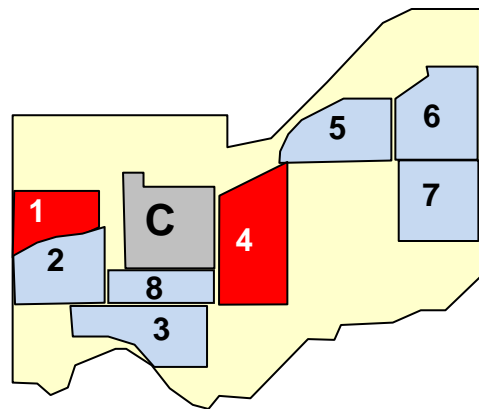





- PDVSA
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Block	Company / Country	Bonus (US\$ million)	XHO Estimate production (MBD)	Comments
Junín 6	Russian Consortium 	1,000	400	Mixed Company approved by the National Assembly on March 9, 2010. Companies involved: Gazprom, Lukoil, TNK BP, Rosneft and Sugurneftgaz
Junín 7	Repsol 		100	MOU for the quantification and certification of reserves (August 22, 2005)
Junín 8	Sinopec 		200	General Agreement for the creation of a mixed company to develop the Junin 8 block's reserves (December 23, 2009)
Junín 10	PDVSA		200-300	This block was originally involved in independent negotiations with Total and Statoil. The block was awarded to PDVSA on February 21, 2010.
Junín 11	Japanese Consortium 		n/d	Joint Development Study for the development of the block (April 7, 2009). Companies involved: Mitsubishi, Inpex, JOGMEC.



Block	Company	Comments
<b>Boyacá Norte</b>	CUPET 	MOU for quantification and certification of reserves (January 24, 2007)
<b>Boyacá 1</b>	Alba Energía	Recently divided - Boyacá 8 created and assigned to PDVSA
<b>Boyacá 2</b>	Petrocaribe	Petrocaribe was originally involved in Boyacá 3 block
<b>Boyacá 3</b>	CNOOC 	MOU for quantification and certification of reserves (December 23, 2009)
<b>Boyacá 4</b>	Petrosa 	MOU for quantification and certification of reserves (September 3, 2008)
<b>Boyacá 5</b>	Petronas 	Joint Declaration for evaluating business opportunities in the sector, as exploration, certification of reserves, field developments, technical services, and refining (December ,19, 2006)
<b>Boyacá 6</b>	GALP 	Joint Declaration for evaluating business opportunities in the sector, as exploration, certification of reserves, field developments, technical services, and refining (October 2, 2007)



-  **PDVSA**
-  **Granted through G2G agreements / MOU**
-  **Existing Projects: C= Petropiar (Ameriven)**

Block	Company / Country	Comments
<b>Ayacucho 2</b>	TNK BP 	Joint Study Agreement (July 22, 2008).
<b>Ayacucho 3</b>	Gazprom 	MOU for the quantification and certification of reserves (July 22, 2008).
<b>Ayacucho 5</b>	ENAP  PetroEcuador 	MOU for the quantification and certification of reserves (April 16, 2007 with ENAP and April 18, 2007 with PetroEcuador).
<b>Ayacucho 6</b>	Enarsa 	MOU for the quantification and certification of reserves (January 19, 2006).
<b>Ayacucho 7</b>	Petropars 	MOU for the quantification and certification of reserves (September 18, 2006).
<b>Ayacucho 8</b>	Chevron 	No G2G agreement involved. In practical terms will likely be handled as an expansion of Petropiar.