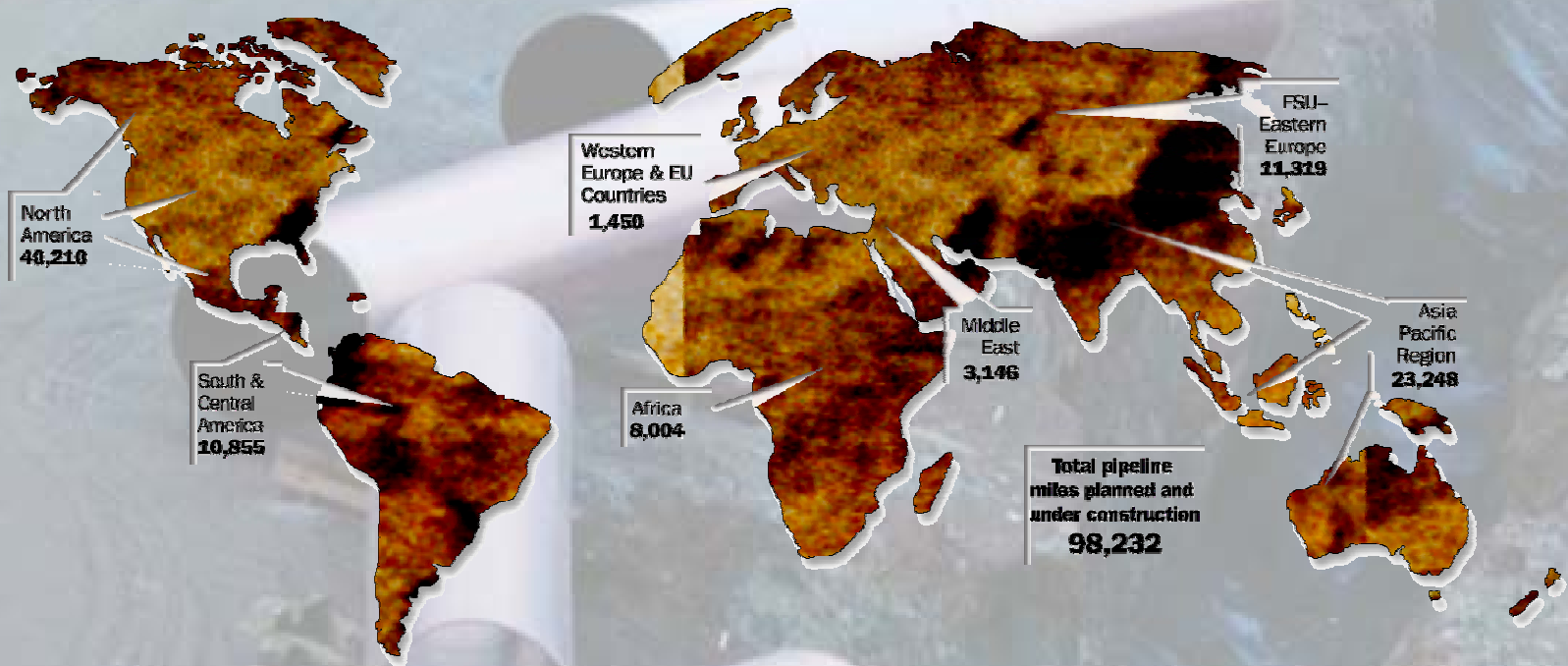


# Pipeline Numbers



These are combining to cause operating company managements to stretch out pipeline project time lines.

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# Growth Predictions

The world is now focusing on natural gas as the optimal substitute for crude oil; LNG will play a larger role.

## *LNG Worldwide Growth*

<u>Region</u>	<u>Year 2005</u>	<u>Year 2015</u>
Japan	42%	25%
Korea	16%	11%
Europe	32%	12%
Americas	13%	33%
Other/Asia	8%	19%

# International

- **6,675 miles to be constructed in 2007**
- **51,347 miles in the planning stage**

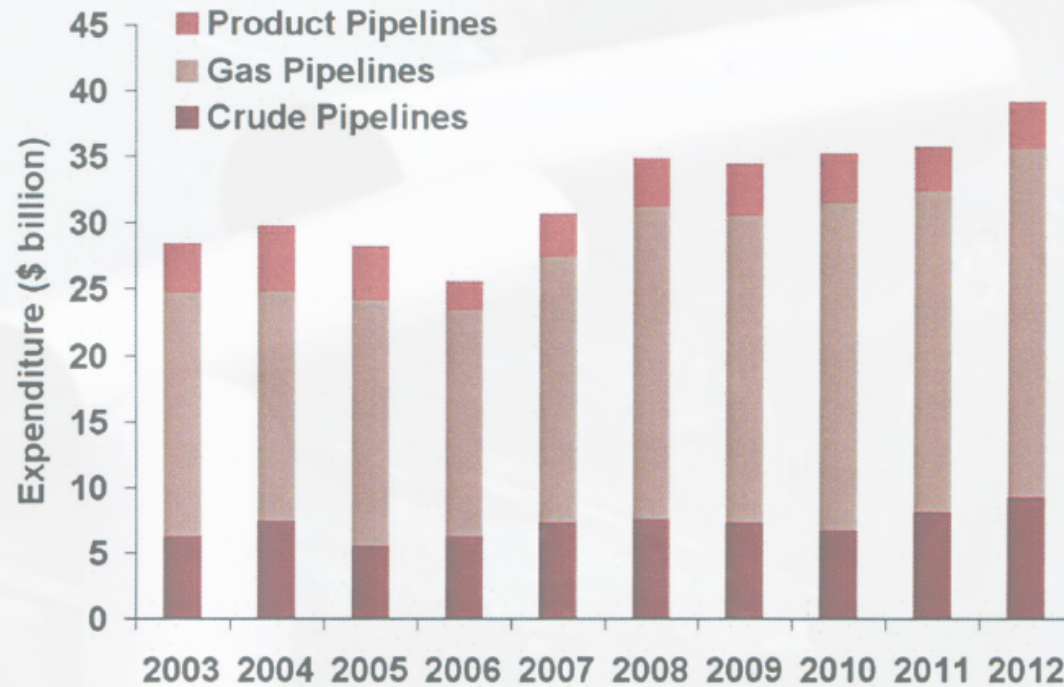
# International

- **Caribbean/South & Central America – 10,855**
- **Africa – 8,004**
- **Asia Pacific – 23,248**
- **Former Soviet Union/  
Eastern Europe – 11,319**
- **Middle East – 3,146**
- **Western Europe/  
European Union Countries – 1,450**

## PETROBRAS PIPELINE PROJECTS SCHEDULED FOR SERVICE 2008-09

Project	Type	Length (mile)	Dia. (inch)	In-Service Date
Plangas C5+	Products	47	8	Dec. 08
Plangas GLP	LPG	47	8	Dec. 08
Campo Grande - Cuiaba	Oil products		10 to 18	N/A
Sao Sebastiao-Guararema	Crude/Oil prod.	56	24	Nov. 09
Japeri-Reduc	Natural Gas	25	28	Nov. 08
Paulinia-Jacutinga	Natural Gas	50	14	Aug. 08
Expansao Do Gasbel	Natural Gas	190	16 to 18	Oct. 08
Gasduc II	Natural Gas	114	38	May.09
Gaspal II	Natural gas	40	22	Dec. 09
Gastau-Caraguatatuba- Taubate	Natural gas	64	28	July.09
Gasau II	Natural Gas	24	22	Dec. 09
Anel De Gas Da Reduc	Natural Gas	60	12	Jun. 08
Fafen/Se (Ramal)	Natural Gas	14	8	Oct. 08
Pilar-Ipojuca	Natural Gas	112	24	Nov. 09
Urucu-Manaus	Natural Gas	414	18 to 20	Apr. 08
Acu-Sera Do mel	Natural Gas	20	14	Jan. 08
<b>Total Mileage</b>		<b>2,206</b>		

## A \$180 billion market for Onshore Pipelines Projects through to 2012



Onshore Pipelines Market – Total Project Costs by Product 2003-2012 (\$ billions)

Source: “*The World Onshore Pipelines Report 2008-2012*” – Douglas-Westwood Ltd





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