

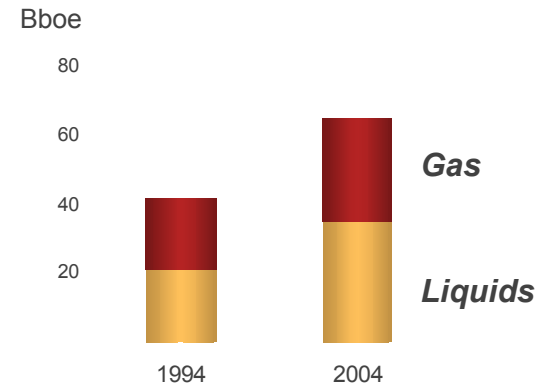


# Exploration & Production in Nigeria

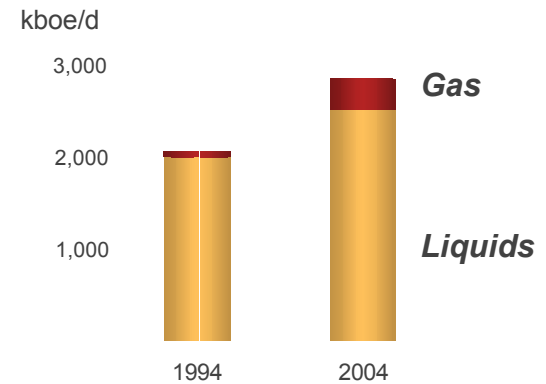
November 8, 2005

# Nigeria : a core country for the oil industry

Nigeria reserves\*



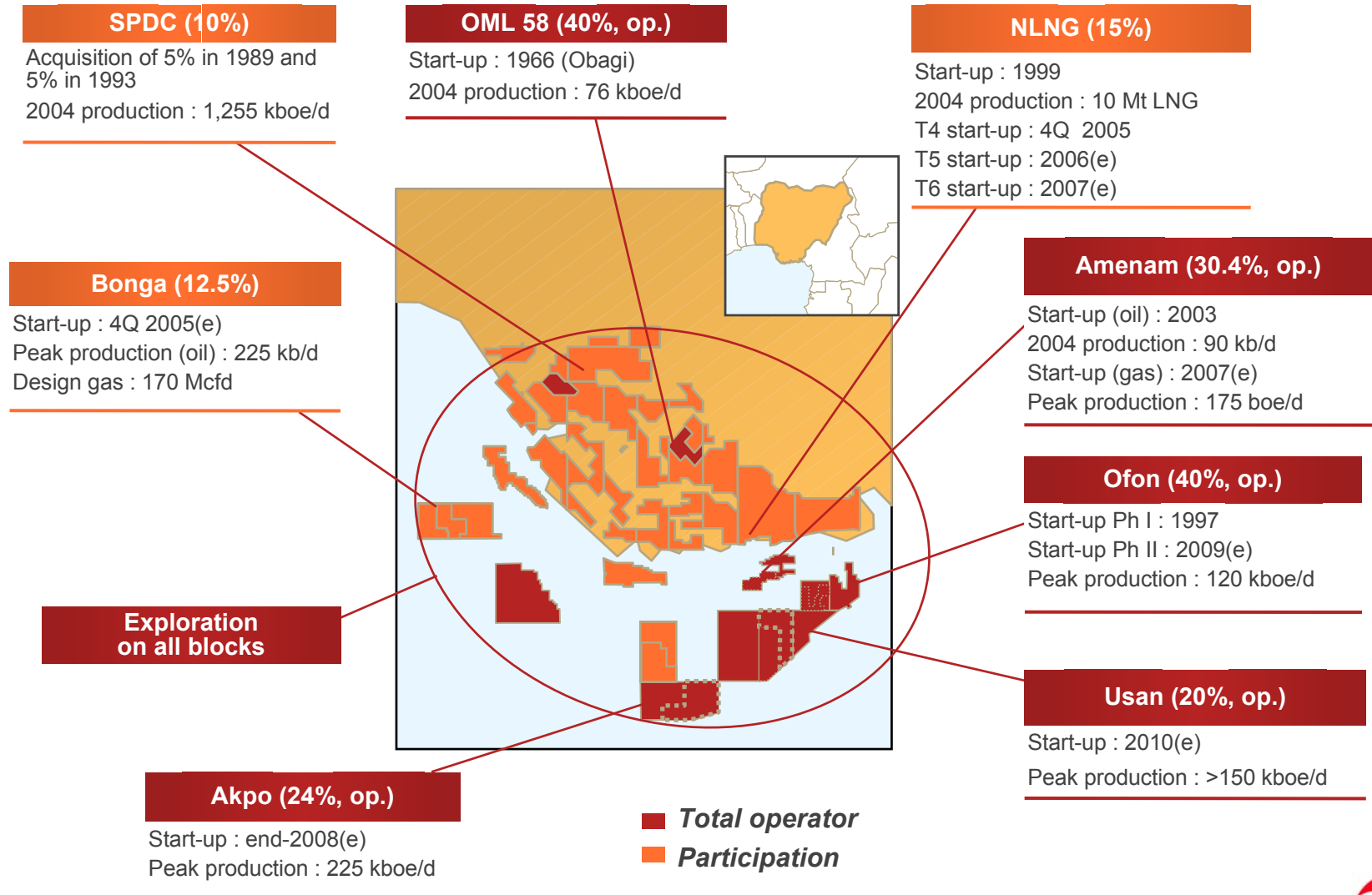
Nigeria production\*



\* public estimates



# Total in Nigeria



full field production by project at 100% in 2004 or at estimated peak production for projects under development

# Historical presence

1962-1992



1993-1999



2000-2005



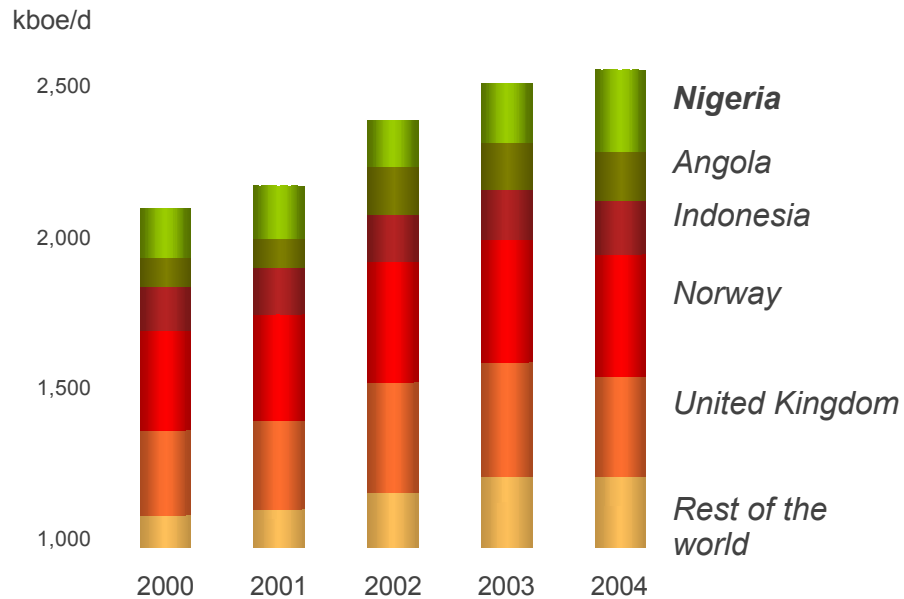
- EPNL active in Nigeria from 1962
- Obagi production start-up in 1966 (60 kb/d)
- Participation in SPDC since 1989

- Participation in NLNG since 1993
- Odudu start-up in 1993
- Ofon start-up in 1997
- NLNG start-up in 1999, with supply from OML 58 Obite

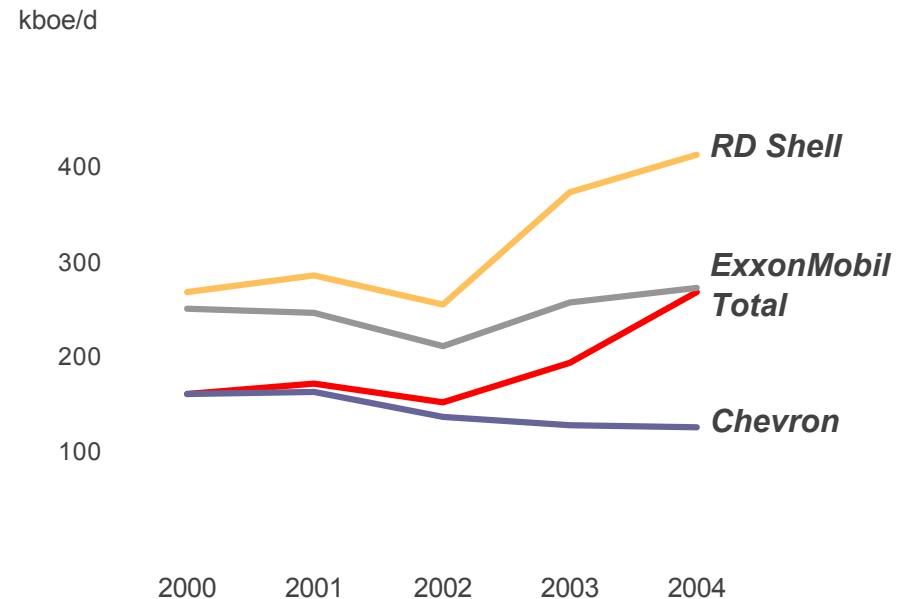
- Akpo discovered in 2000
- Usan discovered in 2002
- Amenam oil start-up in July 2003
- Akpo development launched in 2005

# Strong contribution of Nigeria to Total's production growth

**Total's production by country**  
(2000-2004)



**Majors' production in Nigeria\***  
(2000-2004)



\* based on company reports

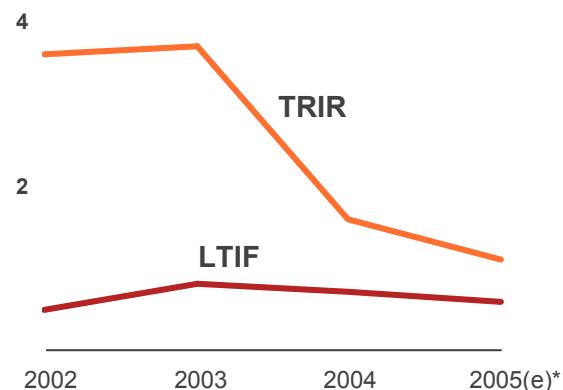


# Strong improvement of safety and environmental protection



## LTIF / TRIR-Nigeria

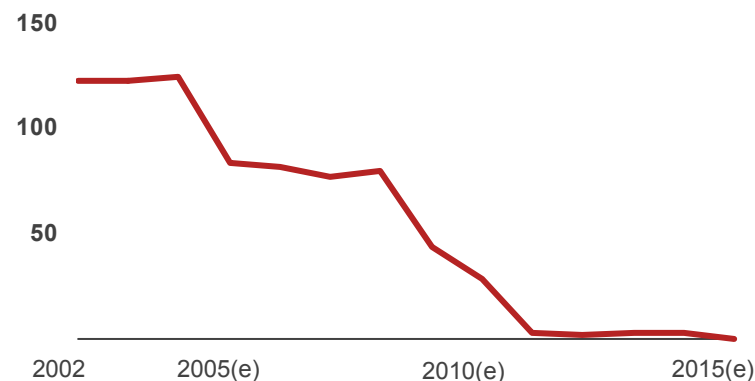
Events per million manhours



## Gas flaring

100% operated

Mcf/d



### ■ Keep Improving Safety

- Maintaining installations
- Reevaluation of major risks
- Training
- Industrial hygiene policy
- "Behavior Improvement" action

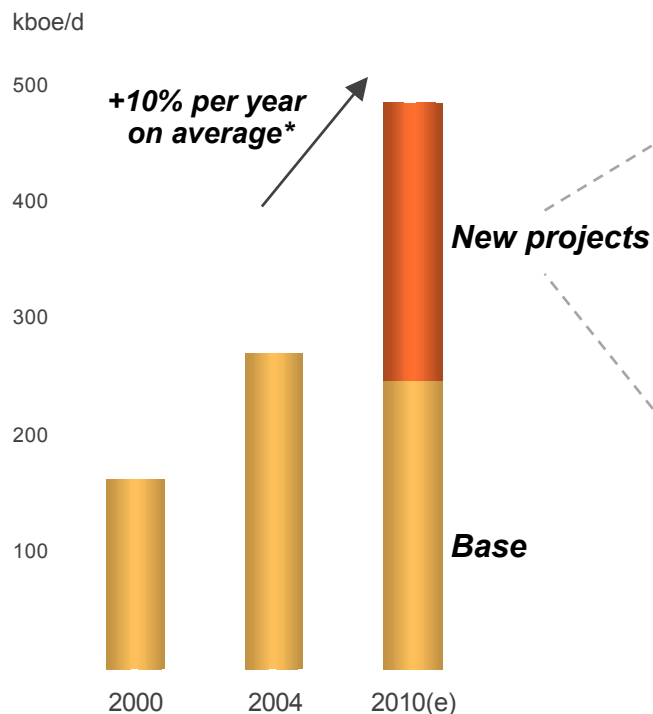
### ■ Minimize environmental impact of operations

- Green House Gas (GHG) emission reduction : 2005 target of 35 kt/Mboe reached
- Flare out projects under implementation

\* 12-month moving average as of 30/06/2005

# Acceleration of Total's growth in Nigeria

## Total's Nigeria Production\*



## Main projects

Start-up	Main projects	Share	Target peak 100%	Op.	Development launched
2005(e)	NLNG T4 Bonga	15.0% 12.5%	4 Mt/y 225 kb/d + 170 Mcfd		Compl. ✓
2006(e)	NLNG T5	15.0%	4 Mt/y		✓
2007(e)	Amenam Gas NLNG T6	30.4% 15.0%	50 kboe/d 4 Mt/y	✓	✓ ✓
2008(e)	Akpo OML 58 Upgrade	24.0% 40.0%	225 kboe/d 32 kboe/d	✓ ✓	✓ Basic eng.
2009(e)	Ofon Ph. II	40.0%	120 kboe/d**	✓	Basic eng.
2010(e)	Usan NLNG T7	20.0% 15.0%	> 150 kboe/d 8 Mt/y	✓	Dev. Studies Dev. Studies

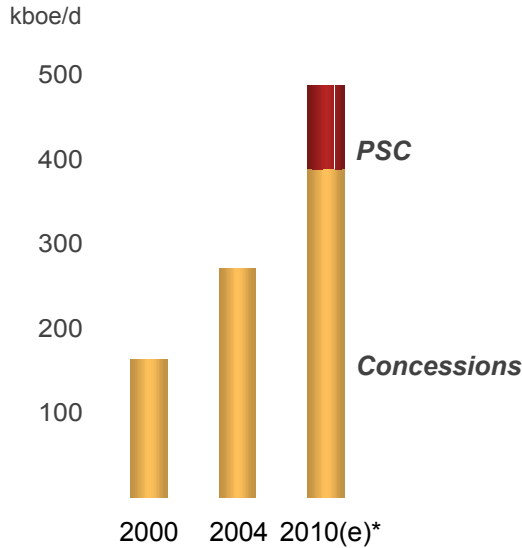
**Growth resulting from exploration success and strong gas development**

\* estimates of future production based on Brent at 25\$/b net to Total

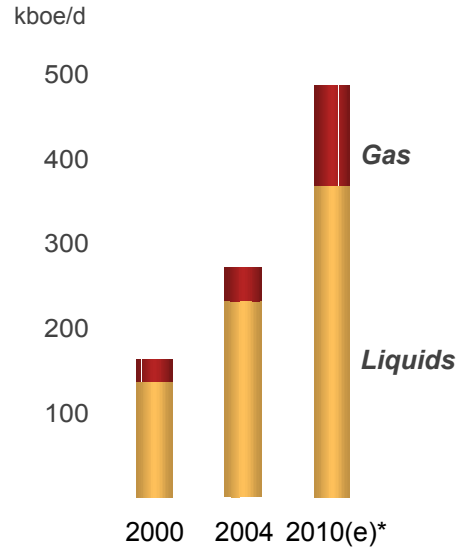
\*\* peak production for phase I and phase II

# High-quality asset portfolio

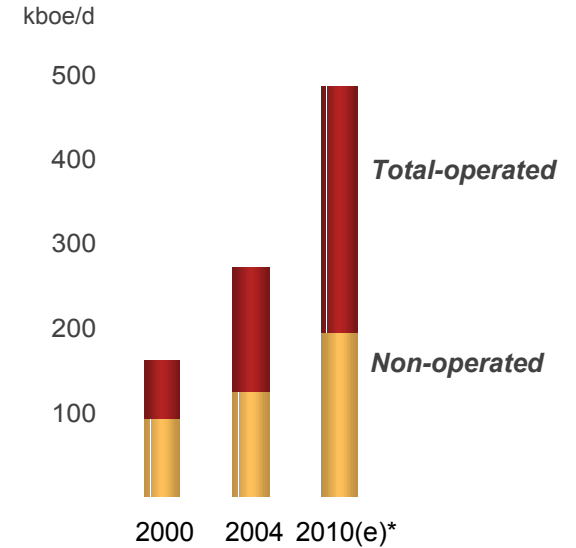
**Production  
by type of contract**



**Production  
by type of product**



**Production  
by operator**



- High government take for concessions

- Adapted terms for deep-offshore PSCs

- High average realized price

- Light Sweet Crude (approx. 38° API on average)
- Good gas realizations through NLNG

- Three new trains at NLNG between 2005 and 2007

- 5 operated projects start-up between 2005 and 2010(e)

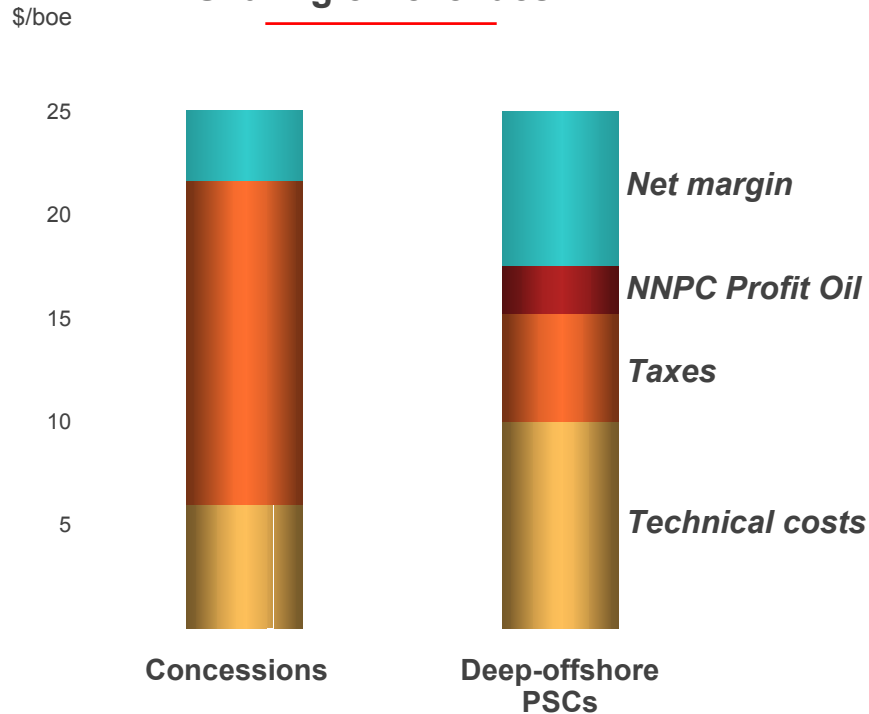
- Approx. 60% of equity production Total-operated in 2010

\* estimates of future production based on Brent at 25\$/b, net to Total



# Fiscal terms : an incentive for deep-offshore developments

## Nigeria contracts Sharing of revenues\*

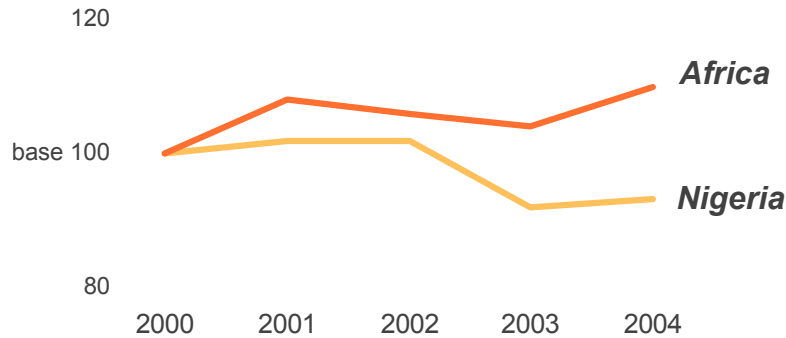


- Low technical costs on concessions
- Higher technical costs on deep-offshore PSCs
- Lower effective tax rate on PSCs
- In a 50\$/b Brent environment :
  - Sharing of the upside on PSCs
  - Lower leverage on concessions

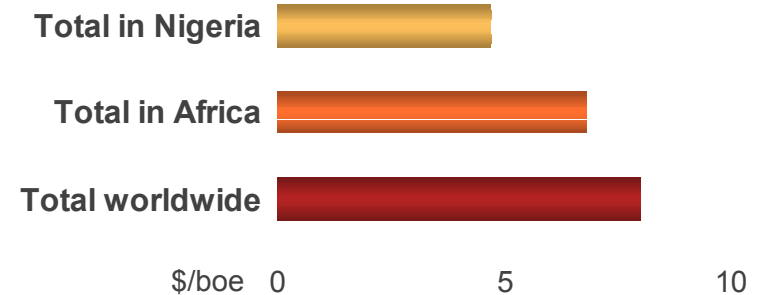
\* estimate based on typical contracts, in a 25\$/b Brent environment

# Nigeria : efficient cost control policy on a strong volume base

Technical costs\*  
(2000-2004)



Technical costs\*  
(2004)



## ■ Technical costs among the lowest in the Group's portfolio

- Strong exploration success
- Low technical costs on concessions thanks to a large production base
- Cost control programs since 2000

## ■ Growth based on development of giant fields

## ■ Higher technical costs on deep-offshore developments mitigated by PSC mechanism

\* FAS 69, consolidated subsidiaries



# High realized prices for oil and gas in Nigeria

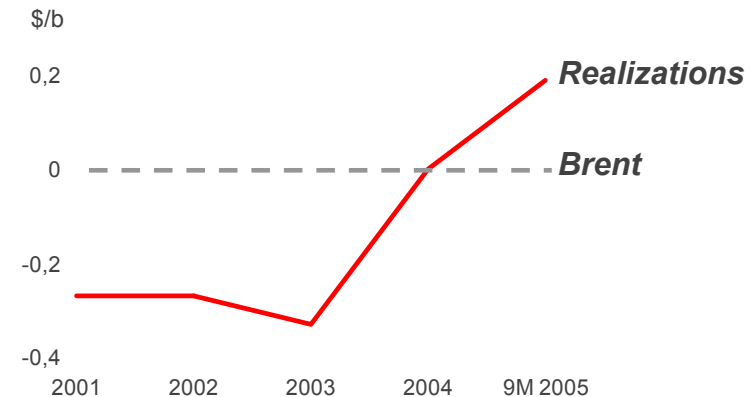
## ■ Liquids

- 38.3° API on average\*
- Sulfur content : < 0.2%\*
- Production sold mainly to US and European markets

## ■ Gas

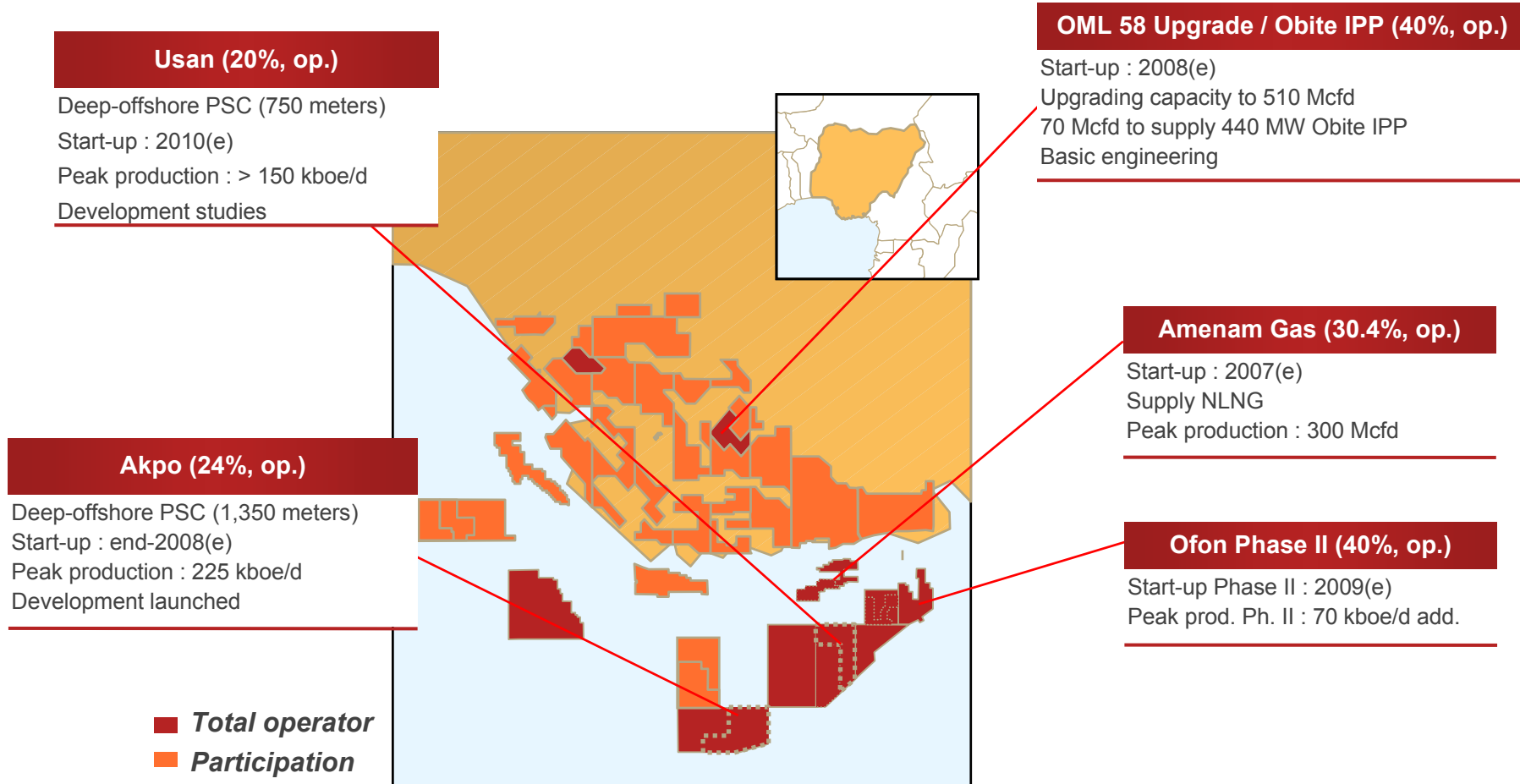
- Trains 1-3 : long-term contracts targeting mainly Europe
- Trains 4-6 : 30% Europe and 70% US
  - US market share above 40% for Trains 1-6

**Liquids realizations**  
(weighted average vs. Brent)



\* estimate for 2004

# Total-operated projects to fuel mid-term growth



***Preparing to launch Usan and Ofon Phase II***

# Main non-operated projects : building on an already strong base

## Forcados Yokri

Start-up : Q2 2006(e)  
 Peak production (oil) : 190 kb/d  
 Design (gas) : 230 Mcfd

## Gbaran (Ubie)

Start-up : 2008(e)  
 Design (gas) : 1.05 Bcfd  
 Peak production (oil) : 120 kb/d

## Bonga

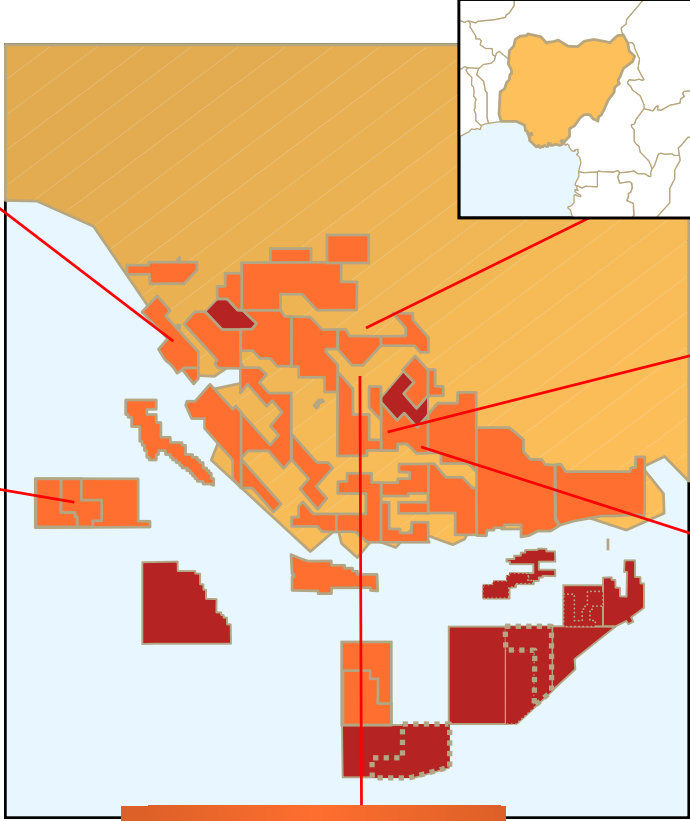
Start-up : Q4 2005(e)  
 Peak production (oil) : 225 kb/d  
 Design (gas) : 170 Mcfd

## Cawthorne Channel

Start-up : Q1 2005  
 Peak production (oil) : 145 kb/d  
 Design (gas) : 210 Mcfd

## EGGS Phase 1

Gas pipeline  
 Start-up : Q3 2006(e)  
 Design (gas) : 1.4 Bcfd



■ **Total operator**  
 ■ **Participation**

## Soku Debottlenecking

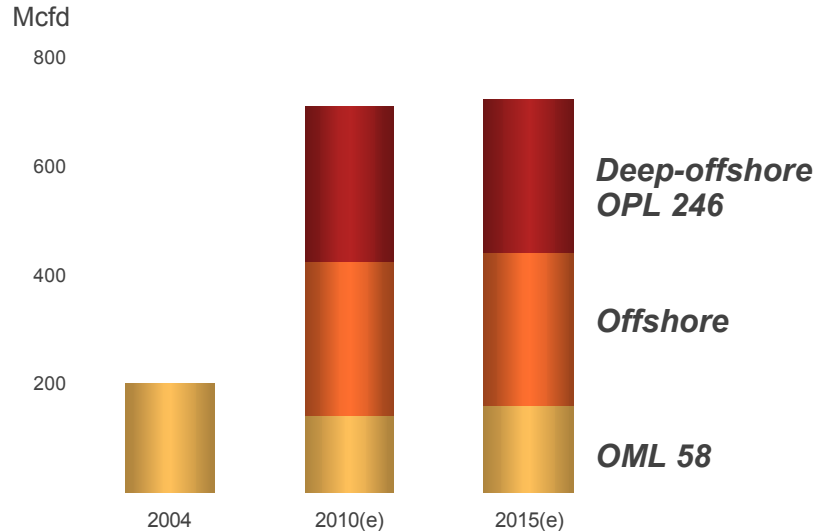
Start-up : Q4 2006(e)  
 Design (gas) : 1.05 Bcfd

SPDC (10%) and SNEPCO (Bonga, 12.5%)

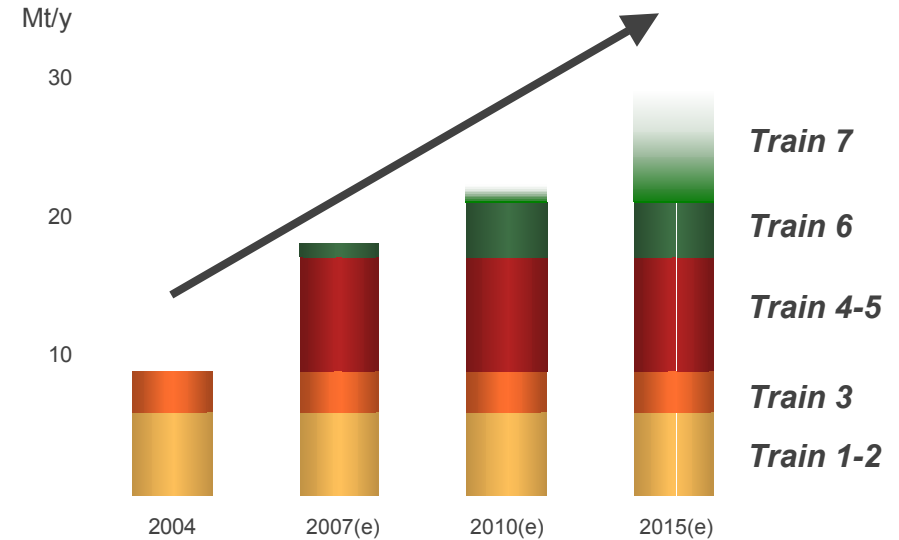


# Valorizing gas reserves through NLNG development

Total-operated gas supply for Trains 1-6



NLNG capacity



## Supply Trains 4, 5 and 6

- Developing Amenam Gas
- Upgrading Obite (OML 58)
- Developing Akpo Gas

## Develop Train 6 (4 Mt/y)

- Construction in progress
- Start-up : 2H 2007(e)

## Launch Train 7 (8 Mt/y)