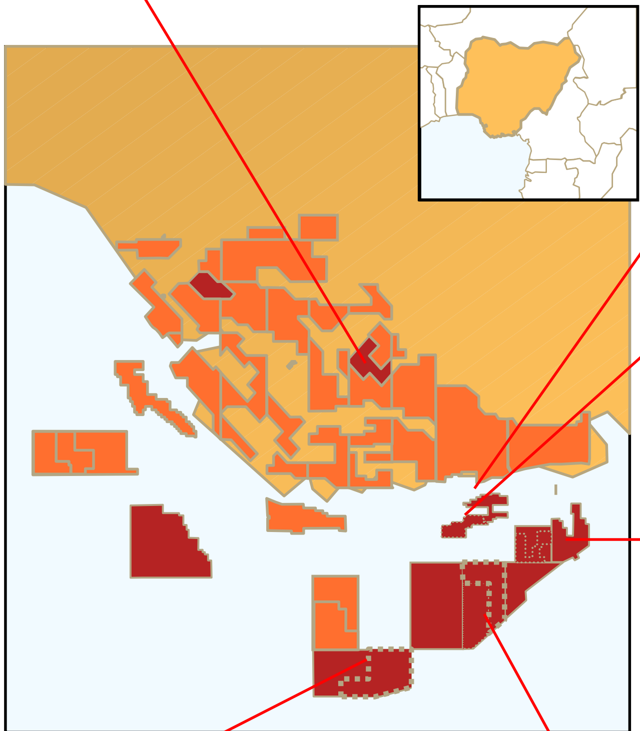
Major Upstream Projects in Nigeria

November 10, 2005

Nigeria : well-diversified portfolio of Total-operated projects

OML 58 (40%, op.)
Upgrade start-up : 2008(e)



NLNG (15%)

Amenam (30.4%, op.)
Oil phase start-up : 2003
Gas phase start-up : 2007(e)

Ofon Ph. II (40%, op.)
Start-up : 2009(e)

Akpo (24%, op.)
Start-up : 2008(e)

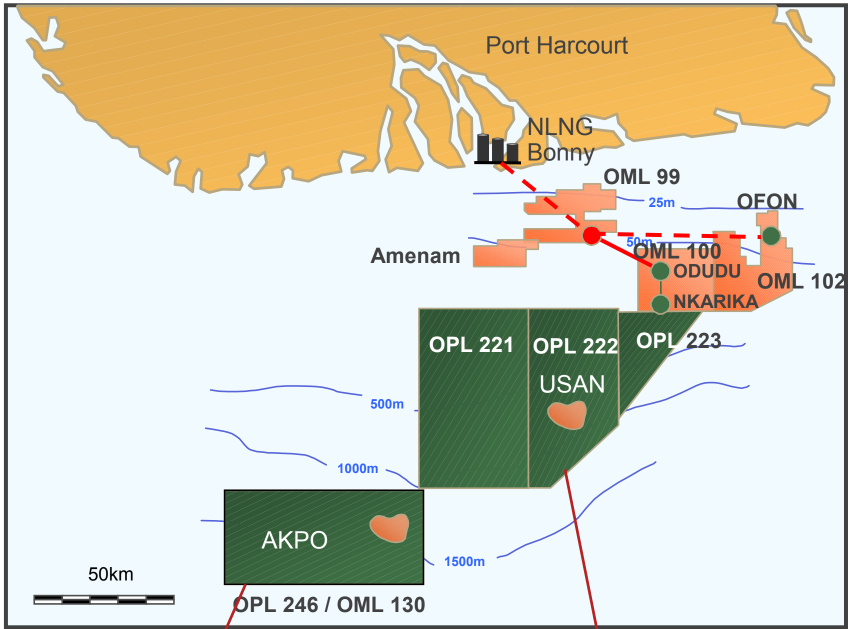
Usan (20%, op.)
Start-up : 2010(e)

Total-operated
Participation

- **Expanding from onshore to offshore and deep-offshore**
- **Operations concentrated in eastern area**
- **Rapid build up of gas and LNG activities**
- **New phases on existing projects**

TOTAL

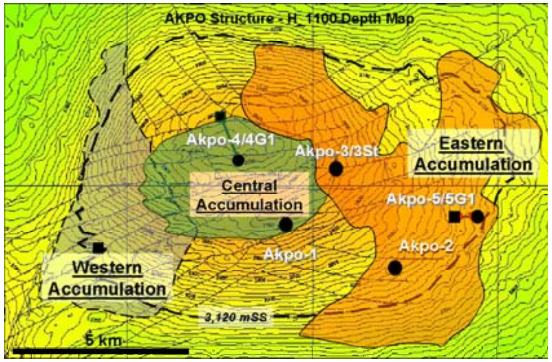
Growing with deep-offshore operated projects

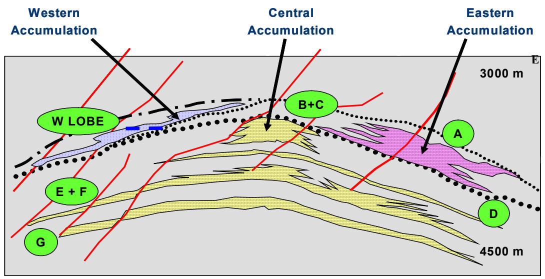


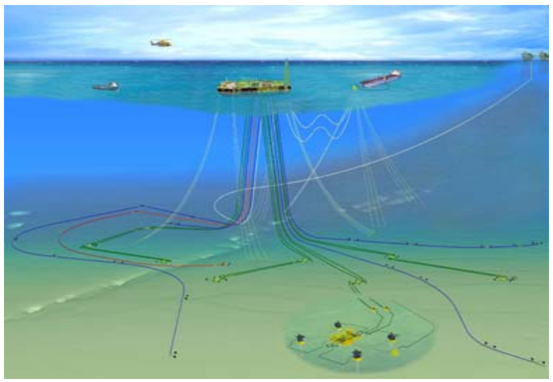
Akpo FPSO (24%, op.)	Usan FPSO (20%, op.)
Start-up : 2008(e) Peak production : 225 kboe/d	Start-up : 2010(e) Peak production : > 150 kboe/d

- **Akpo and Usan : two giant field developments operated by Total**
- **Resulting from successful exploration between 2000 and 2005**
  - Successful appraisal on Usan in 2005
- **Very concentrated area of operations**
- **High level of local content**

Akpo development launched in 2005





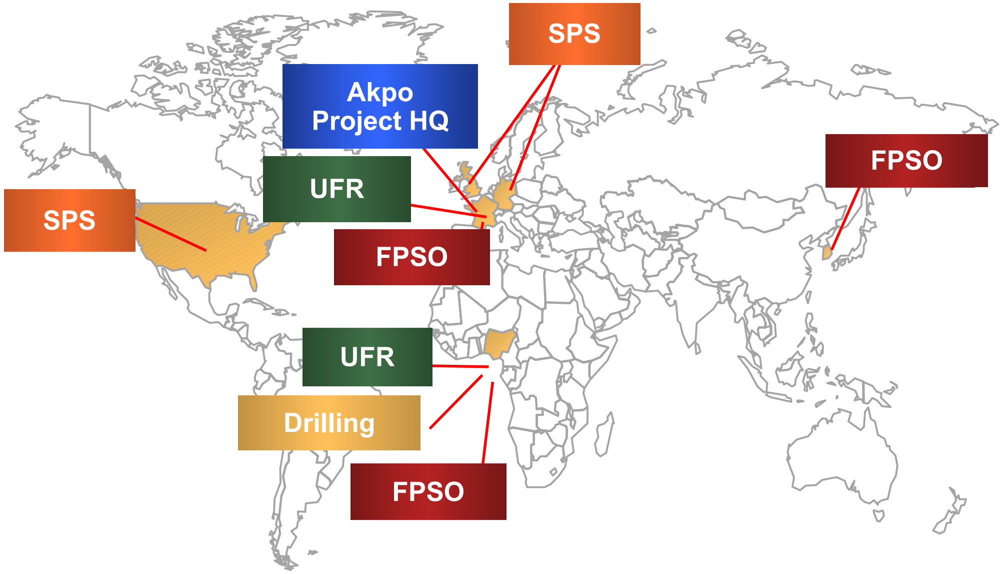


- **Total operator, 24%**
- **5 exploration/appraisal wells on Akpo field (100 km^2)**
- **Approx. 600 Mb of condensate + 1 Tcf of gas* to supply NLNG**
- **44 producing wells on 5 reservoirs (lobes and channels)**
- **Production capacities :**
  - 175 kb/d of condensates
  - 300 Mcfd gas export
  - 200 Mcfd re-injected
  - 2 Mb storage capacity, offloading every 5 days
- **Main milestones :**
  - Discovery in 2000
  - Project sanctioning : 2005
  - Drilling spud : 2006(e)
  - First condensates : end-2008(e)
  - First gas : 2009(e)

* proved and probable reserves

TOTAL

Akpo : managing a worldwide-based project

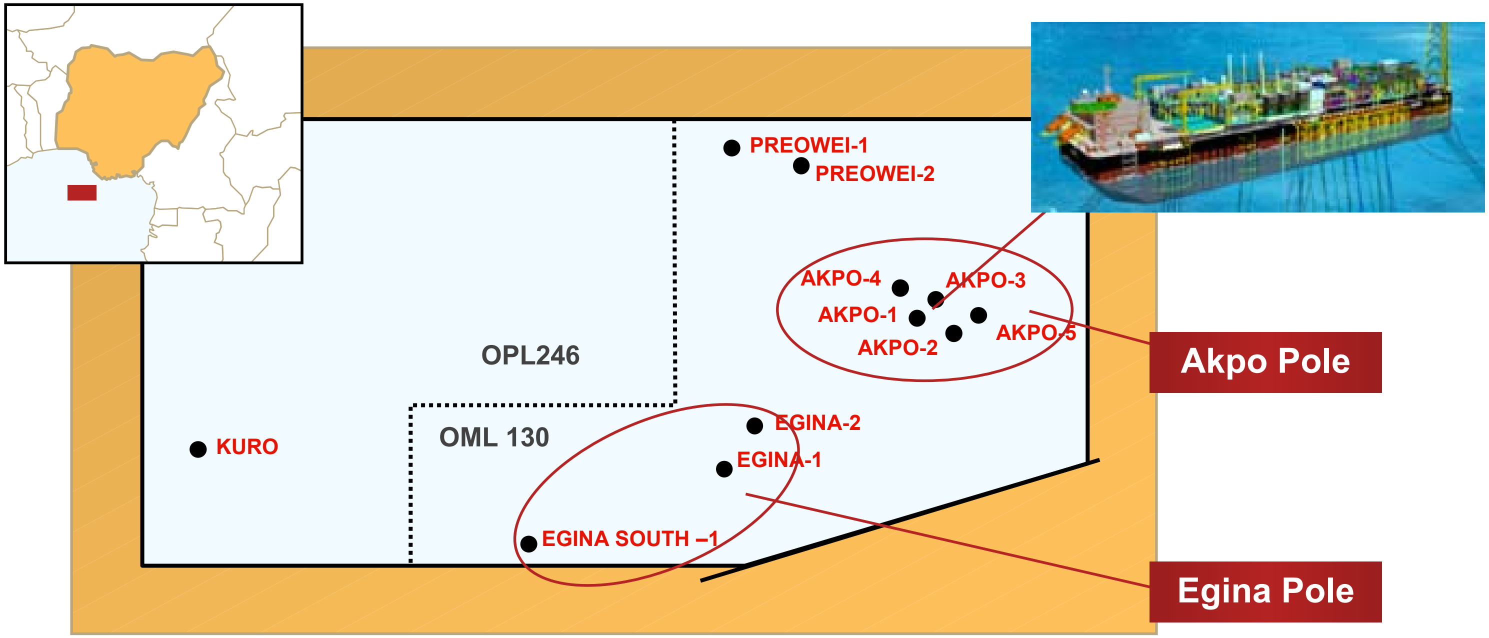


Location

▪ Nigeria	Asset management, fabrication and installation of Umbilical Flowlines and Riser (UFR), Subsea Production Systems (SPS) and installation of FPSO Drilling and Operations
▪ France	Engineering & Management
▪ Korea	FPSO
▪ UK	Wellheads
▪ USA	Subsea manifolds
▪ Germany	Control systems

- **Capex : approx. 5 B$**
- **EPC contracts signed in May 2005**
- **Drilling rigs secured**
- **Nigerian content**
  - Approx. 30%
  - 7.5 million manhours

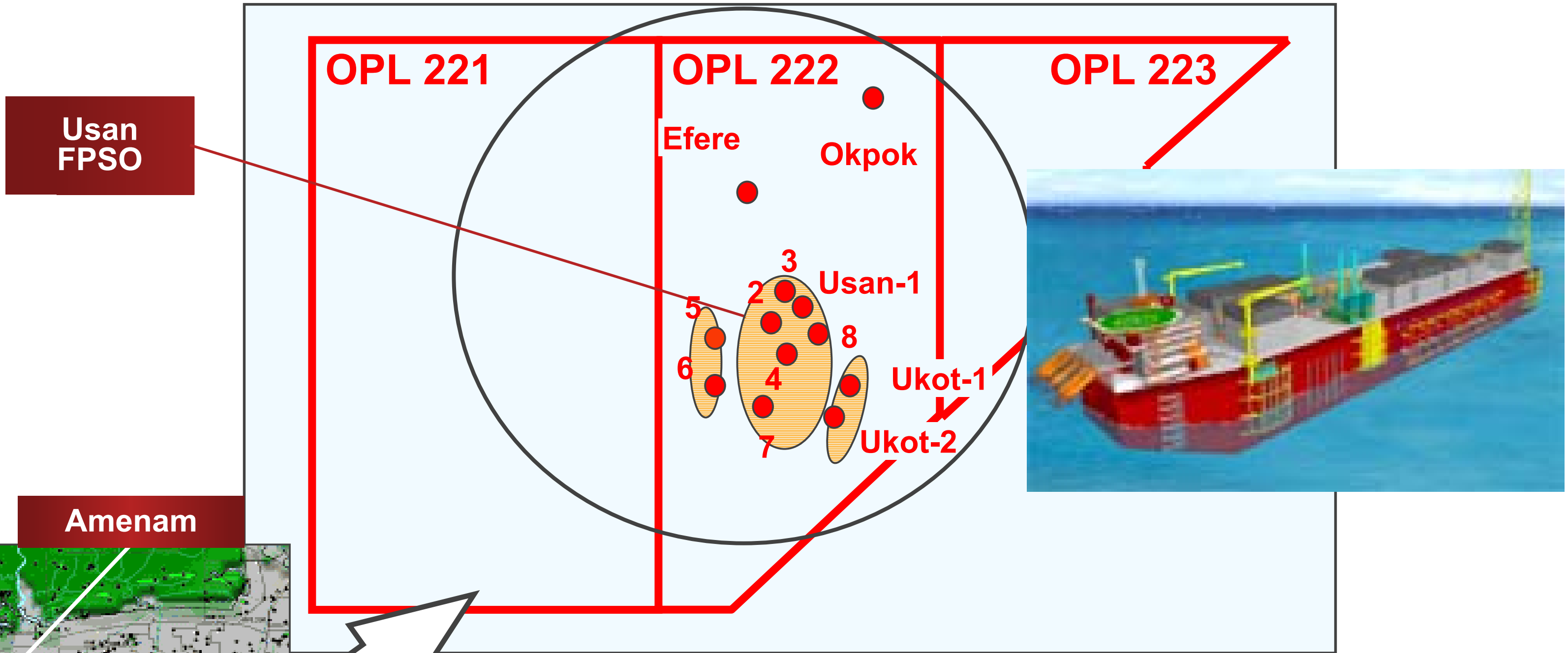
OML 130 : new potential poles of development for the next decade

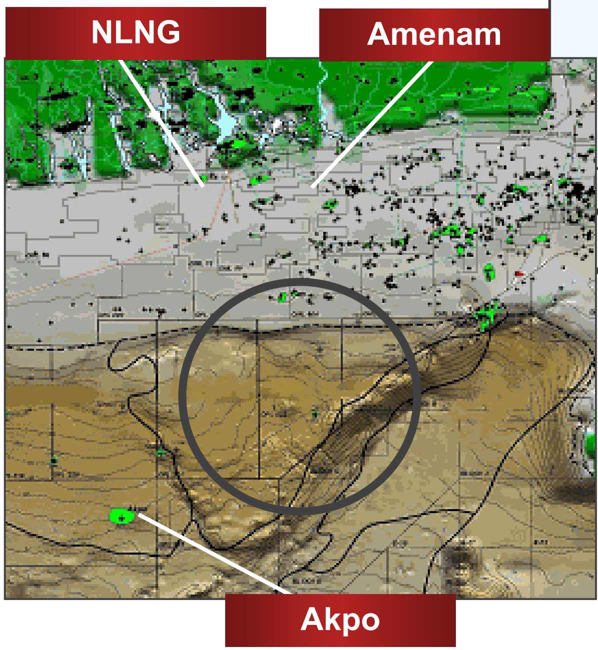


- **11 wells drilled end-2005**
- **OML130 conversion (50% of OPL 246) in 2005**
- **5 discoveries : Akpo, Egina, Preowei, Egina South, Kuro**

- **Additional recoverable oil > 500 Mb**
  - Gas reserves under evaluation
- **Further exploration & appraisal underway**
  - 3 wells planned for 2006
- **Main challenges :**
  - Reservoir complexity
  - Spread of oil fields

Usan : Total operator of the "triangular bulge"





- Total operator, 20%
- OPL 221, 222, 223 : 5,000 km2 of prospective acreage
- Usan FPSO as a central hub
- Several satellites: Usan West, Ukot
- Other possible development poles

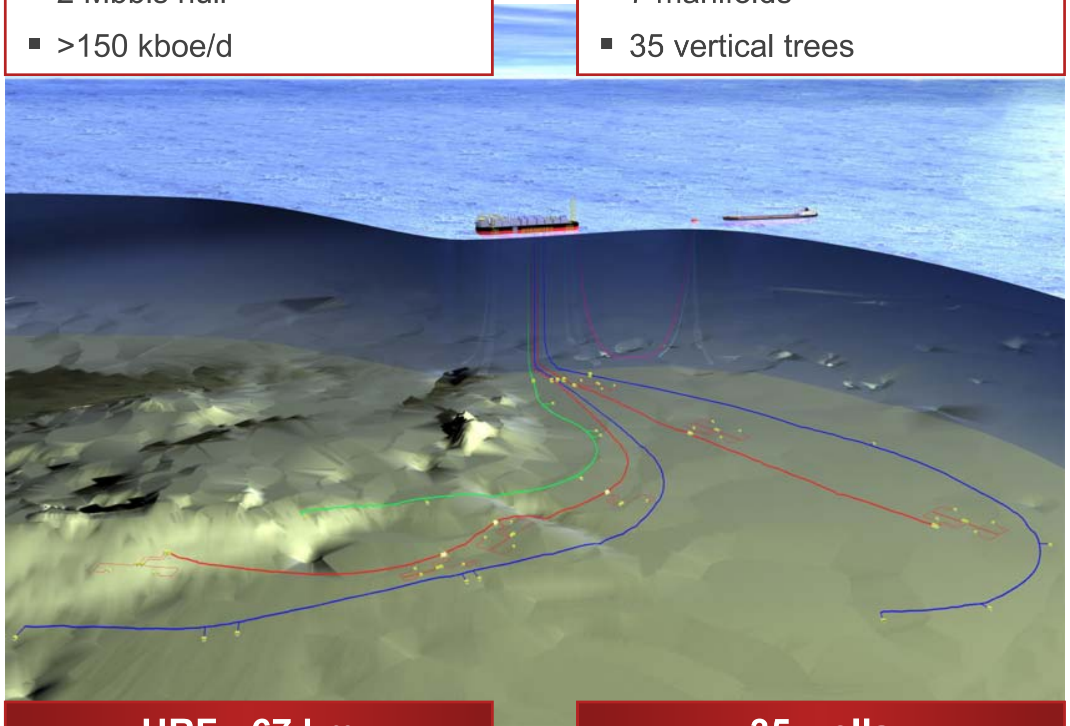
Usan : development studies underway

Spread moored FPSO

- 2 Mbbls hull
- >150 kboe/d

SPS

- 7 manifolds
- 35 vertical trees



URF : 67 km

- 2 x 10"production loops
- 3 x 8" injection lines
- Flexible or riser towers

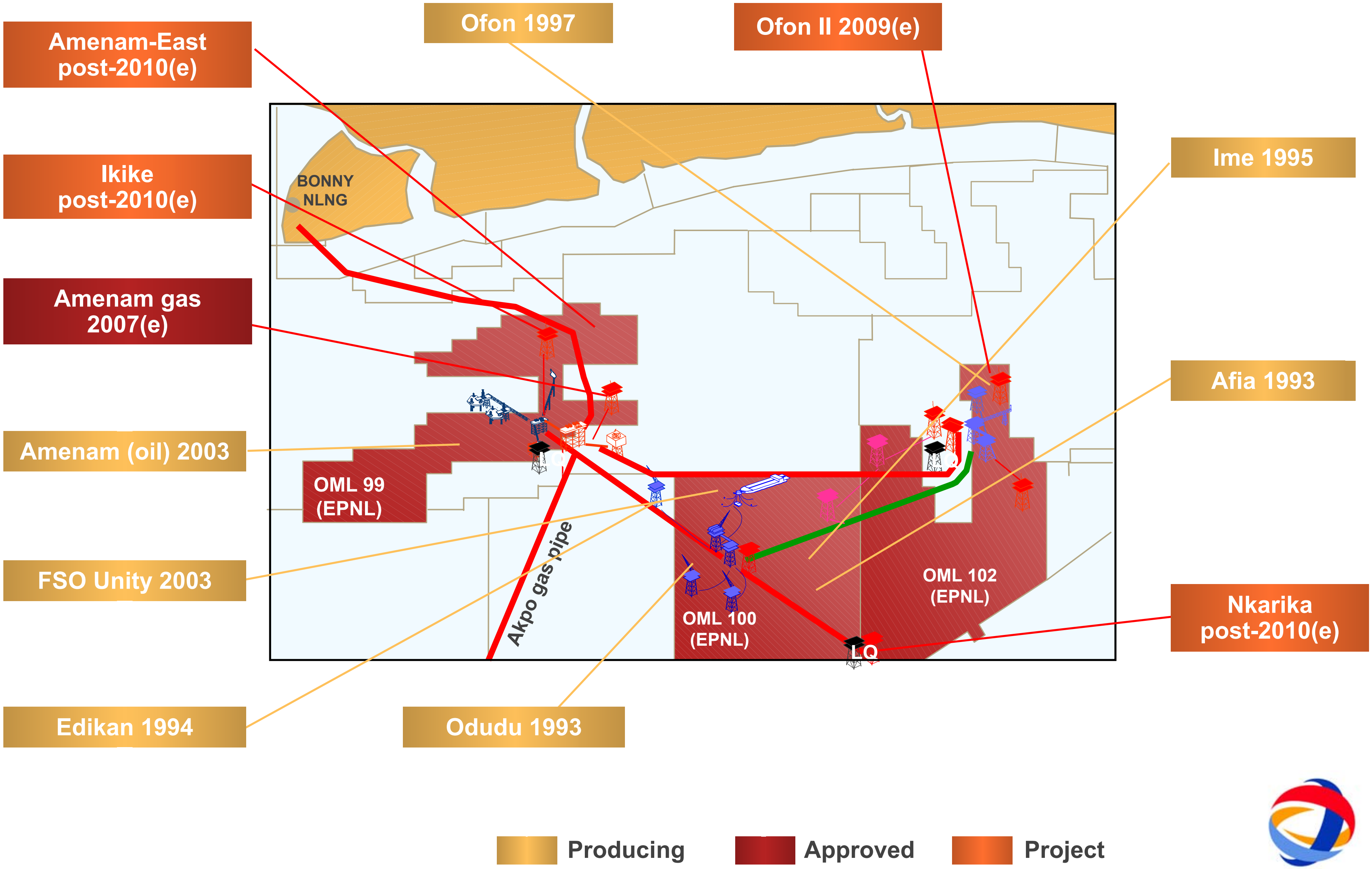
35 wells

- 20 producers, 15 injectors
- 20 intelligent completions

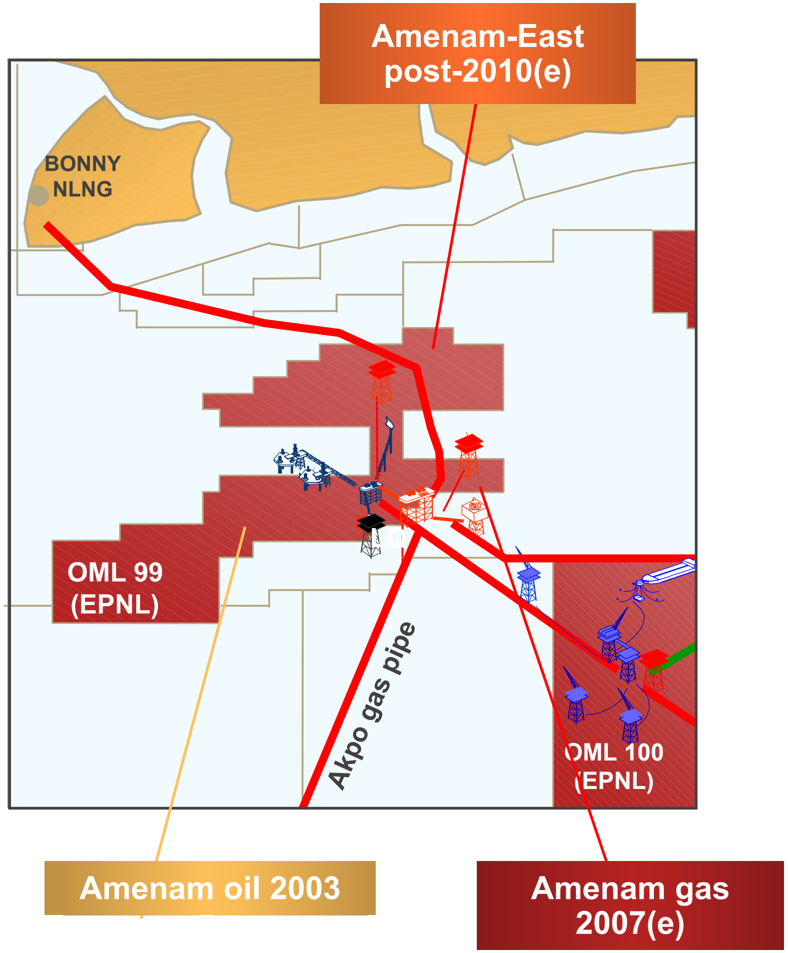
- **Discovery in 2002**
- **Basic engineering underway**
- **FID : 2006(e)**
- **Deep-offshore development**
  - Water depth of 730-850 m
  - FPSO: process capacity 150-200 kboe/d
    - Storage capacity 2 Mb
  - 26 km of production lines
  - 24 km of injection lines
  - Offloading buoy
- **First oil target 2010(e)**

TOTAL

Consolidating conventional offshore positions for both oil and gas projects



Amenam : phased development of a giant field



Producing Approved Project

Amenam Phase I (oil) : 125 kb/d*

- Total operator, 30.4%
- Start-up : July 2003
- FSO
- Short development schedule
- Low technical costs

Amenam Phase II (gas) : additional 50 kboe/d*

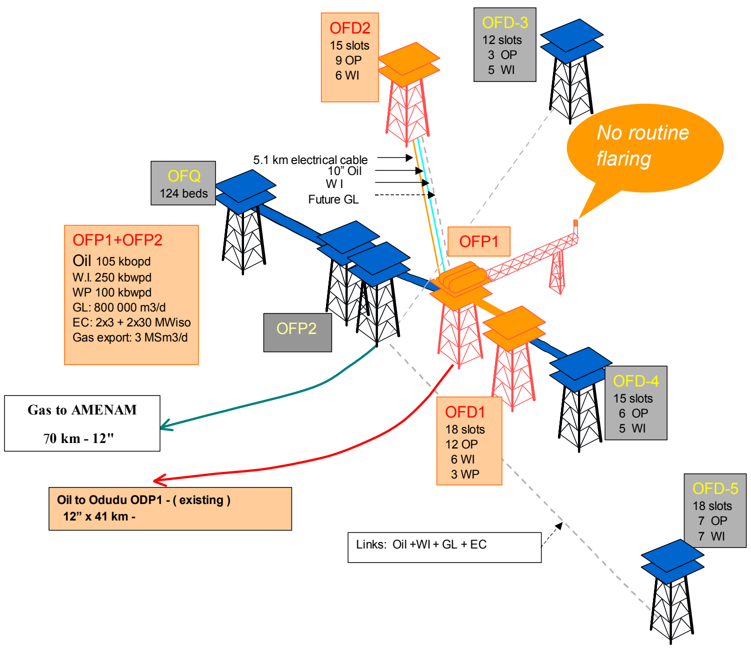
- Start-up : 2007(e)
- Supplying NLNG
- 300 Mcfd delivery
- 24” export export pipeline to NLNG plant, 60 km long, capacity of 750 Mcfd
- 9,500 tons process and treatment platform for water injection and gas export
- 12 slots drilling platform for 6 water injection wells

* production capacity

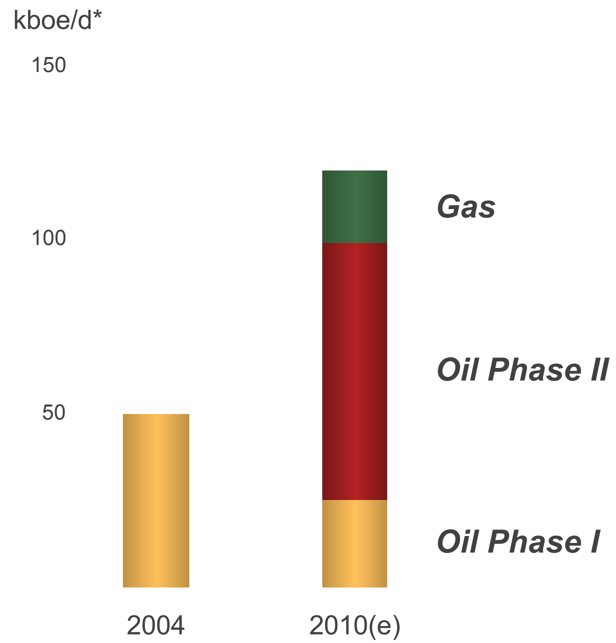
TOTAL

Ofon Phase II : +70 kboe/d to peak production by end-2009(e)

Ofon Phase II
Future field layout



Ofon production (100%)



- FID : 2006(e)
- Project start-up : 2009(e)
- High level of local content

- Total operator, 40%
- Gas monetization through NLNG
- Flaring ends end-2009(e)

* in a 25 $/b Brent environment

OML 58 upgrade

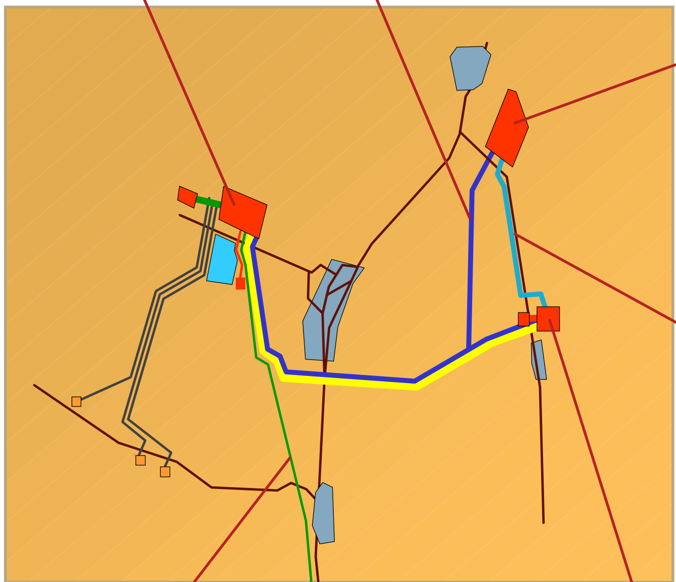
Existing plants on OML 58

Obite - Obagi

12'' HP gas
6'' condensate
Electrical cable
Fiber optic cable

Obagi

Flow station



Obite

Treatment center

Obite - Ibewa

12'' HP gas
Electrical cable
Fiber optic cable

12'' Obagi - Rumuekpe

Ibewa

Production cluster
7 gas wells
1 spare slot

- **Total operator, 40%**
- **Large gas reserves**
- **Capacity increased from 218 to 335 Mcfd end-2005(e) (debottlenecking)**
- **Field upgrade project, up to 510 Mcfd**
- **Pipeline project, to increase transportation capacity to NLNG**
- **Basic engineering underway**
- **FID : 2006(e)**
- **Start-up : 2008(e)**

Obite power plant

90 km line to Onitsha
330 kV single line

Future double line
for second phase
extension to 960 MW

40 km line
330 kV single line

Future double line
saturation
expected

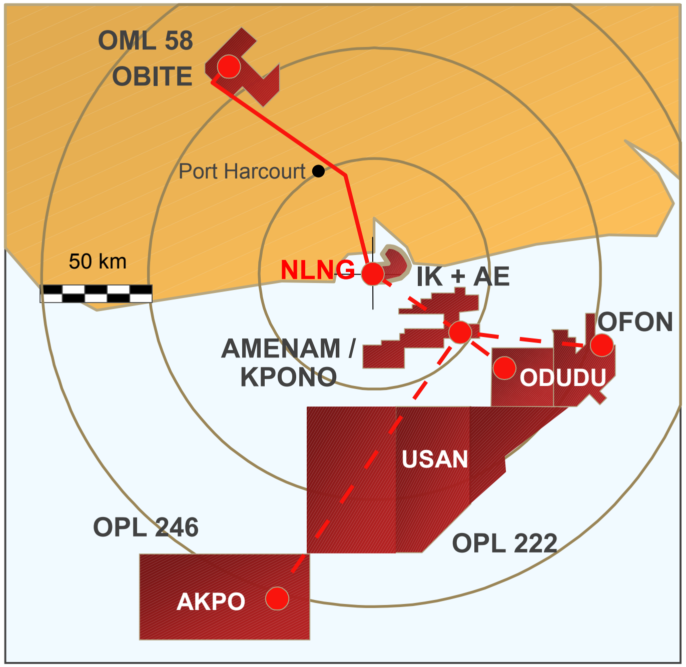
- Power generation priority
- 40% EPNL, 60% NNPC
- Consolidated in JV Oil & Gas activities

- Gas supply from OML 58 : 70 Mcfd
- 440 MW Power Plant (combined cycle)

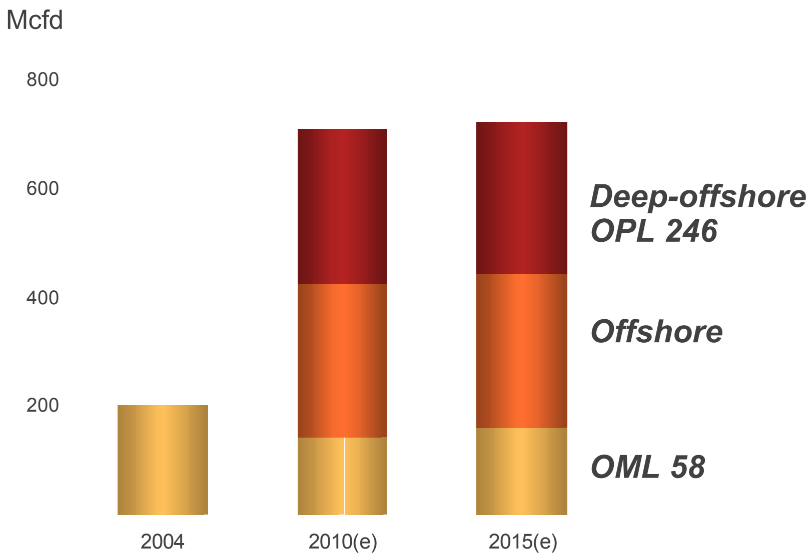
- Basic engineering launched
- FID : 2006(e)

Total : strong growth of gas supply to NLNG

Gas supply scheme to NLNG



Total-operated gas supply for Trains 1-6



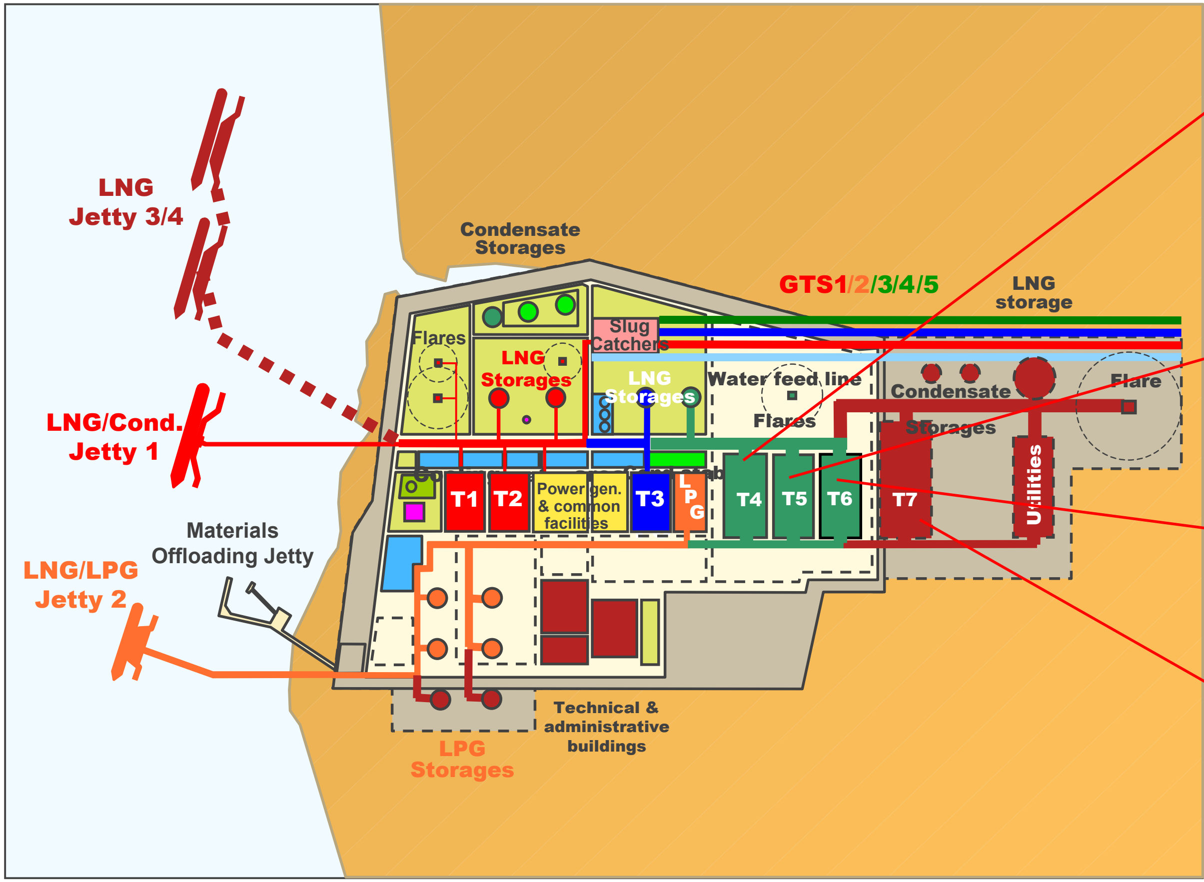
- **Supply portfolio**
  - Onshore (OML 58, Obagi / Obite)
  - Offshore (Amenam Gas, Ofon)
  - Deep-offshore (Akpo)

- **Train 7 supply to be covered by existing acreage**

NLNG, Total 15%

NLNG : four new trains by 2010(e)

22 Mt/y in 2007(e)



Train 4

4 Mt/y
Start-up : 4Q 2005(e)

Train 5

4 Mt/y
Start-up : 2006(e)

Train 6

4 Mt/y
Start-up : 2007(e)

Train 7

8 Mt/y
FID : 2006(e)
Start-up : 2010(e)

- **11 customers with 16 Sale & Purchase Agreements**
- **23 dedicated vessels**

NLNG, Total 15%

TOTAL

Wide range of non-operated projects

Forcados Yokri

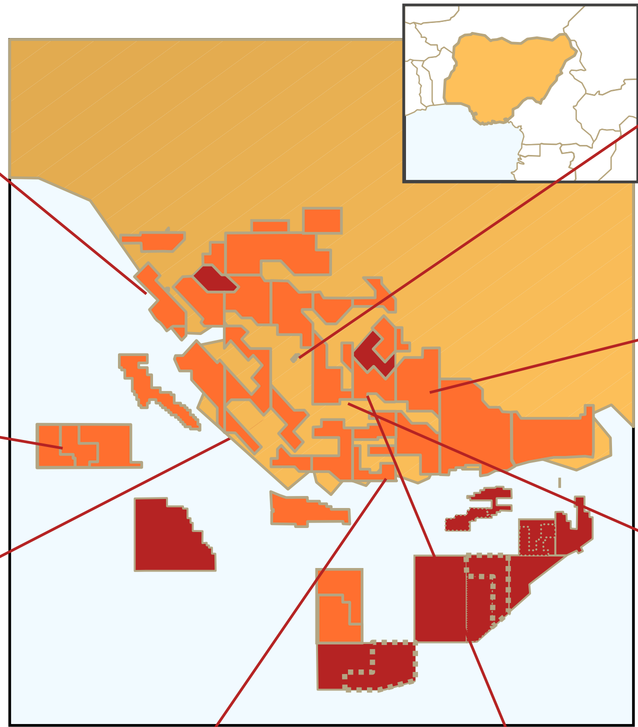
First gas : Q2 2006(e)
Peak production (oil) : 190 kb/d
Design (gas) : 230 Mcfd

Bonga

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

Soku Debottlenecking

First gas : Q4 2006(e)
Design (gas) : 1.05 Bcfd



Gbaran (Ubie)

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

Afam & Alscon Gas Supply

First gas : 2008(e)
Peak production (oil) : 30 kb/d
Design (gas) : 240 Mcfd

EGGS Phase 2

Gas pipeline
First gas : Q4 2007(e)
Length : 56 km
Design (gas) : 1.4 Bcfd

Bonny Terminal Upgrade

Revamping
Completion : LT
Plateau (oil) : 1.2 Mb/d

EGGS Phase 1

Gas pipeline
First gas : Q3 2006(e)
Length : 84 km
Design (gas) : 1.4 Bcfd

Total operator
Participation

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

TOTAL