

Update of Methane capture in light of oil production at Jubilee fields, Ghana

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Ghana

more information available at

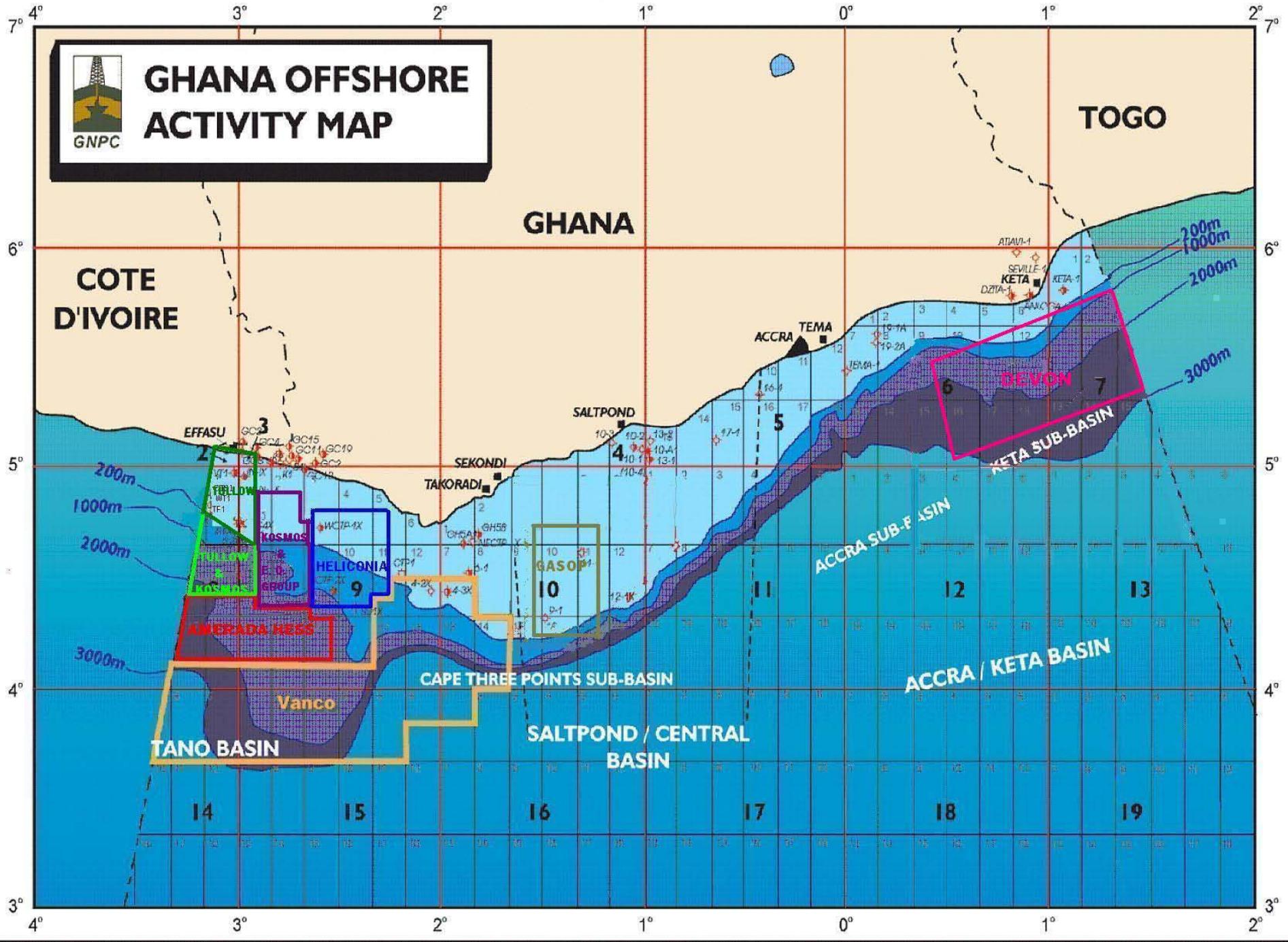
www.ghanaweb.com



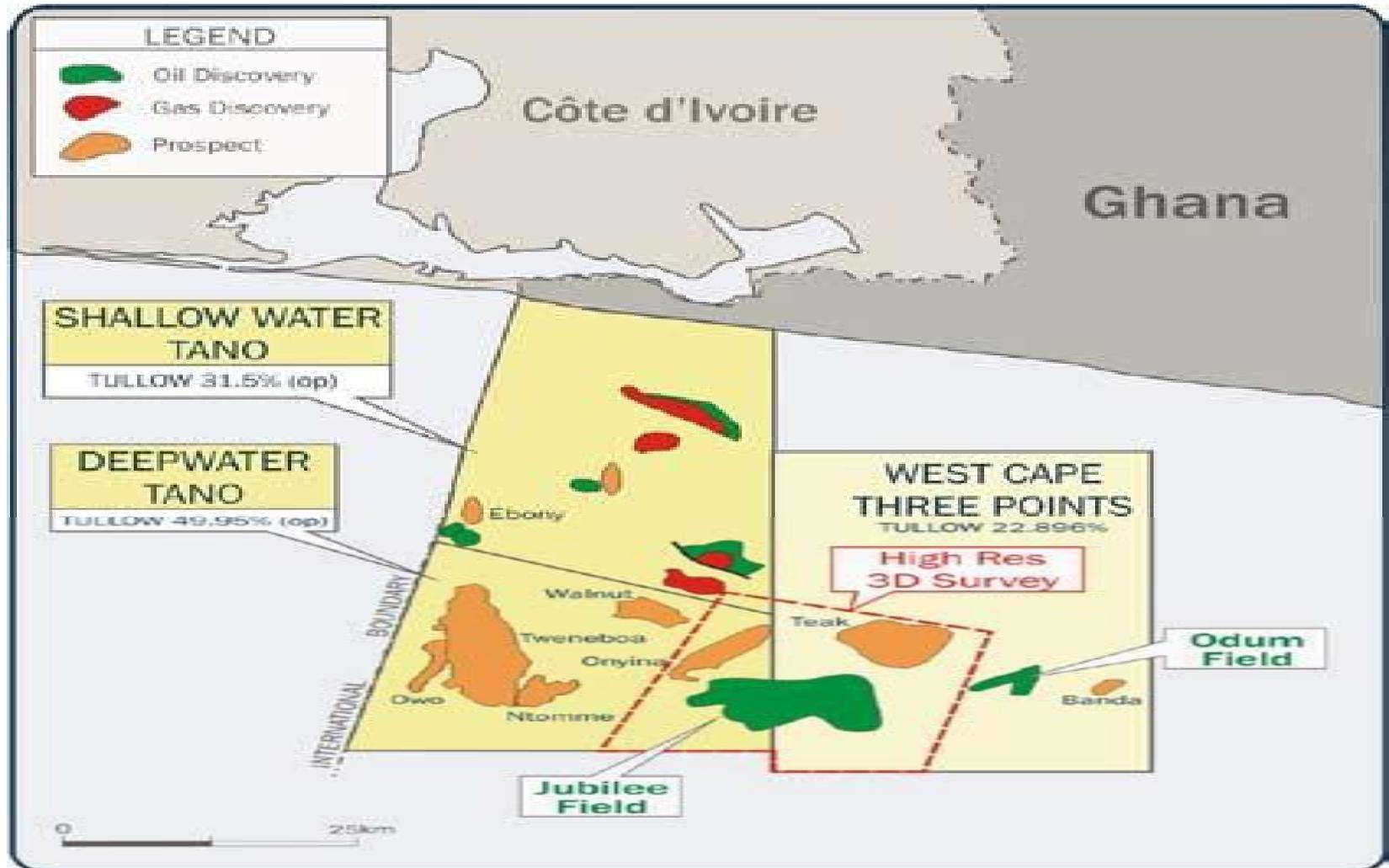
- Location: **West Africa**
- Climate: **Tropic-2 seasons;**
 - Dry and rainy
- Official language: **English**
- Population: **24.2 million** (2010 census)
- Total area: **92,500 square miles/ 237,000 square km**
- GDP per capita (PPP): **2,500 2010 US dollars**
- Major primary economic resources: **Gold and cocoa**
- Sports: **soccer**



GHANA OFFSHORE ACTIVITY MAP



DeepWater Tano and West Cape Three Points



Jubilee Field production partners

- The **Jubilee field** was discovered in **June 2007**. It is located at **1,100 m** depth between **DeepWater Tano** and **West Cape Three Points** blocks.
- Recoverable reserves are estimated to be over 370 million billions.

<u>Partners</u>	<u>DeepWater Tano</u>	<u>West Cape Three Points</u>
Tullow	49.95 %	22.9%
Kosmos	18%	30.88%
Anardarko	18%	30.88%
Sabre Oil	4.05%	1.85%
GNPC	10%	10%
EO Group	- 0	3.5%

Unitization Agreement was approved by the Govt in **July 2009**.

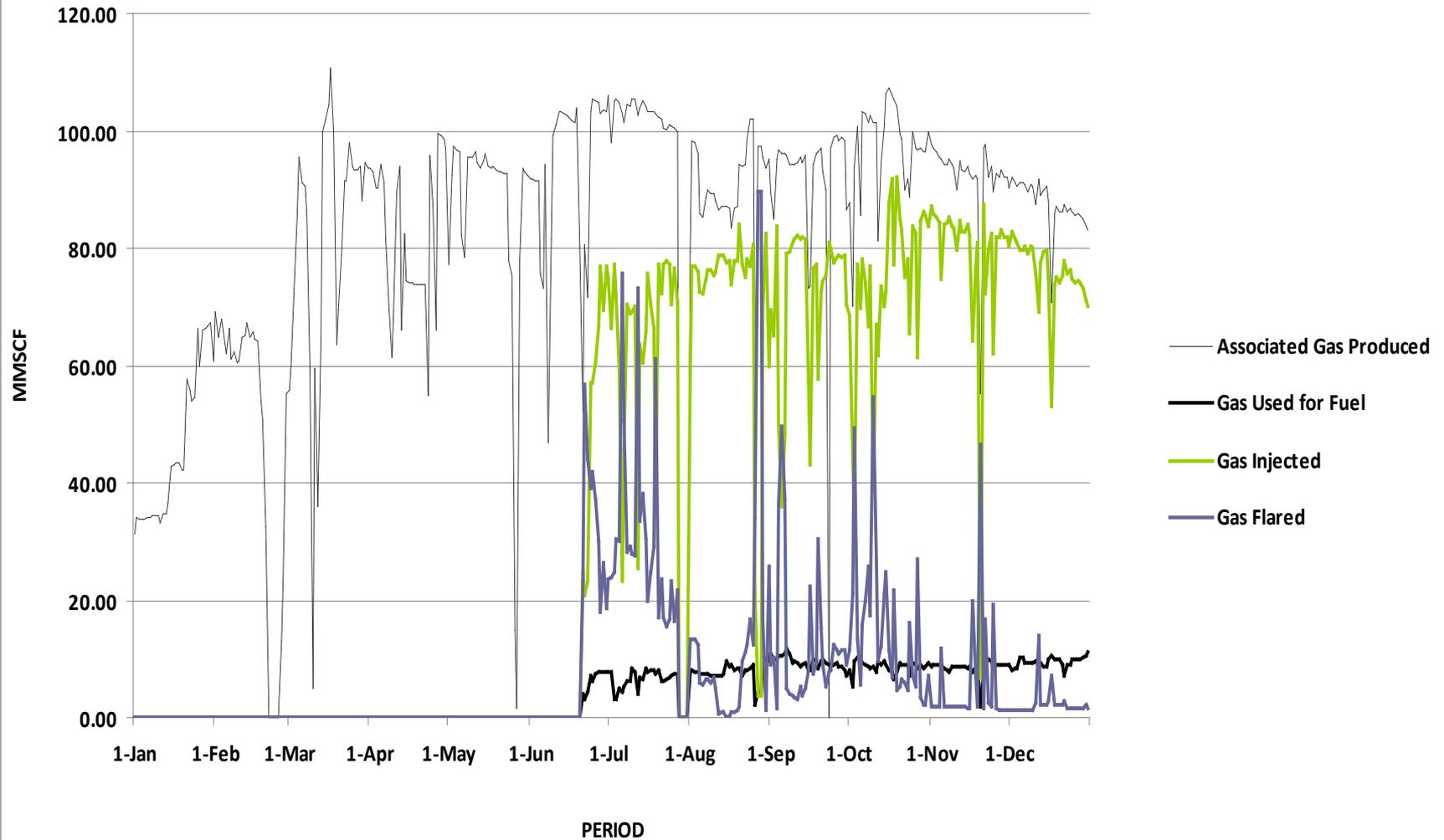
Brief Commercial oil history

- Ghana officially commissioned her **first commercial oil** from the **Jubilee Fields** on 15th Dec, 2010
- Lifted her **first share of oil** cargo of **995,259 barrels** on 9th March, 2011.
- Initial oil production really began on 28th November, 2010 with a production of **1,792 barrels** per day ramping up to **45,148 barrels** per day on 30th November, 2010.
- Mean production in Dec, 2010 was **35,374 barrels** a day.
- **Associated gas** is being **flared**, even though the Government has **“no flaring”** policy, after securing the **gas for free** from the Jubilee Partners.
- Jubilee field was expected to reach initial target of **120,000bbls/d** in late 2011, providing a potential annual average of **95,000 barrels per day**.

Brief Commercial oil history

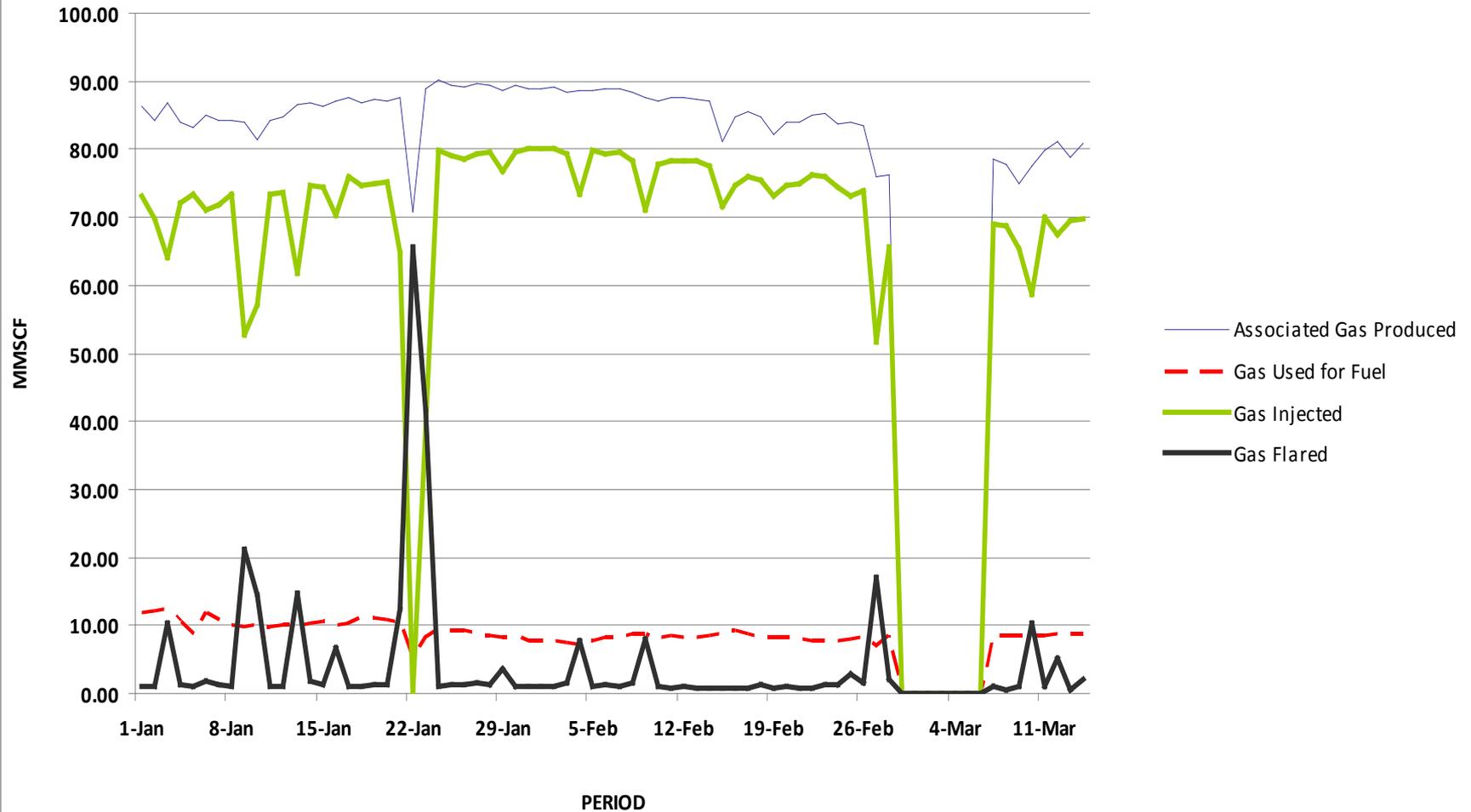
- However, **Tullow Oil plc** (the operator) has encountered some difficulties in ramping up the field to full production *due to mechanical issues and complications relating to the design of well completions.*
- It is currently producing only around **80,000 bbls/d** from **eight** wells.
- Production is expected to hit **120,000bbls/d** later in 2012, then set to maintain the output through 2013 and beyond *with the potential for a further increase in production depending on the successful implementation of the next phase of development plan which is currently awaiting government approval.*
- **Associated gas** flared had reduced from about **96%** at the beginning of commercial production in 2010 to less than **5%** per daily production by close of December 2011.
- *Jubilee partners could have been asked to develop the gas infrastructure simultaneously*

ASSOCIATED GAS PRODUCED, GAS USED FOR FUEL, GAS INJECTED AND GAS FLARED FOR 2011



ASSOCIATED GAS PRODUCED, GAS USED FOR FUEL, GAS INJECTED AND GAS FLARED

FROM JANUARY 2012 TO 14TH MARCH



JUBILEE FIELD OIL PRODUCTION

since commercial operations in late 2010

CUMULATIVE PRODUCTION AND INJECTION SUMMARY AS AT MAR-7, 2012

Description	Quantity	Unit
Net oil produced	29,836,388	bbls
Associated gas produced	36,824.45	mmscf
Gas used for fuel	2,958.17	mmscf
Gas injected	19,488.17	mmscf
Gas flared	14,378.11 (<i>39% of prod</i>)	mmscf
Water injected	64,388,543.93	bbls
Oil lifted as at 2 nd March, 2012	29,327,955.00	bbls

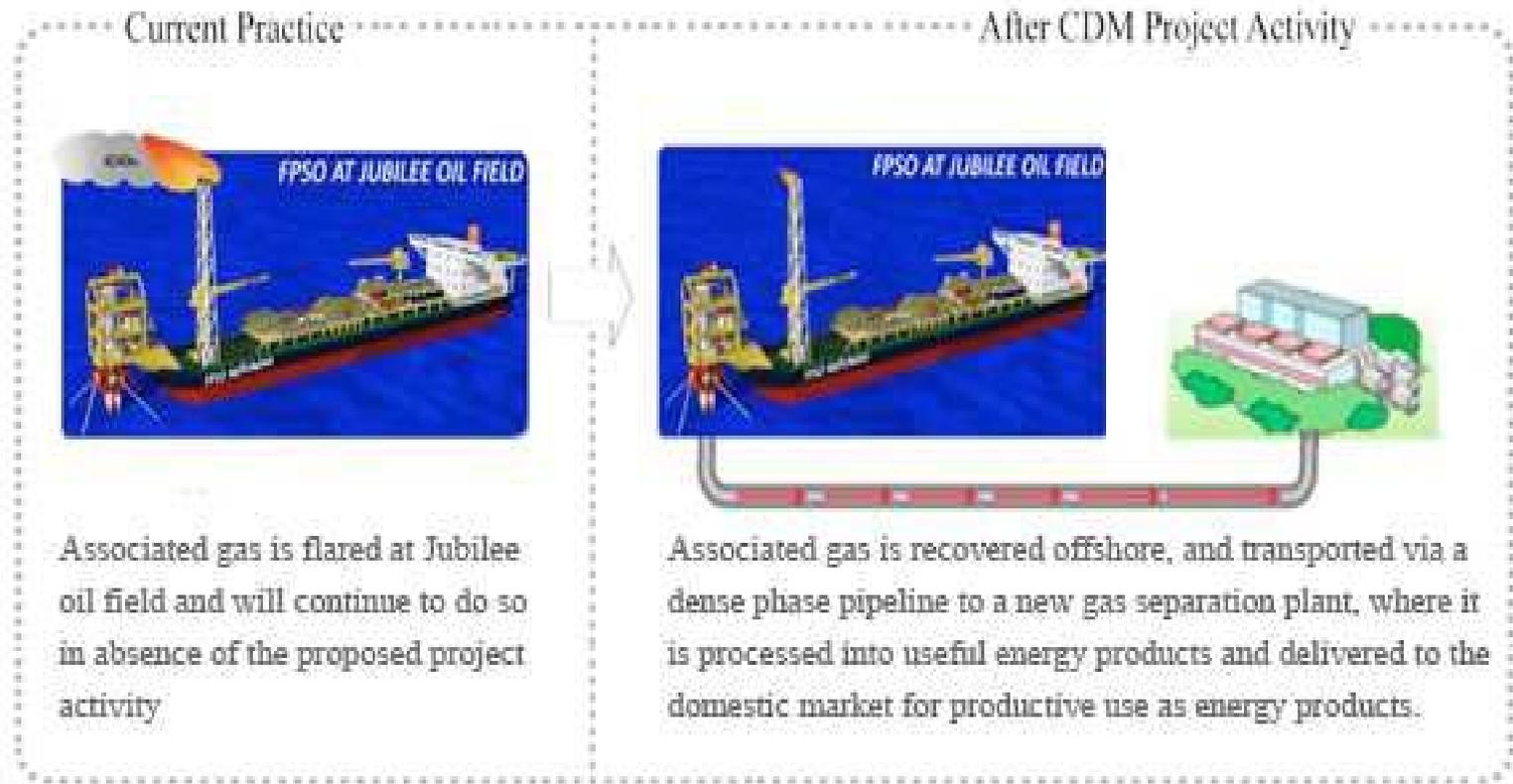
Transporting the associated gas

- A **50-km** pipeline to transport the **associated gas** from the **FPSO** to **onshore** for **processing** is required.
- A **14-km deep water pipeline** of it has been completed.
- **Front End Engineering Design (FEED)** for the remaining **37-km** shallow water pipeline to the **onshore location** of the proposed **Central Processing Facility (CPF)** has been completed.
- The contract for the **FEED** to deliver an initial gas rate of **150 mmscfd** has been awarded to **Technip**. (*Technip engineered and fabricated the flowlines, tested and installed the subsea equipment of the FPSO*).
- Ghana's parliament approved **\$800 million** tranche of a **\$3 billion** China Development Bank loan package, intended to use to fast-track work on the gas infrastructure.

CDM initiatives

- **Jubilee Oil Field Associated Gas Recovery and Utilization Project as CDM activity**
 - ❖ The purpose is to recover the **associated gas** that is being flared at the **Jubilee oil field** located within the Deepwater Tano and West Cape Three Points blocks in the Republic of Ghana and to deliver it instead to the **domestic market** for productive use as an **energy product**.

Jubilee Oil Field Associated Gas Recovery and Utilization Project as CDM activity



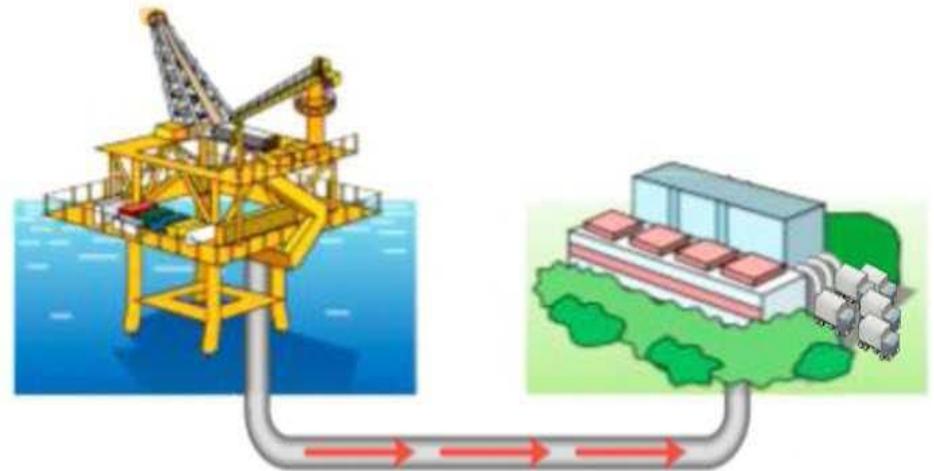
Saltpond oil field

Current Practice



Associated gas is flared at Saltpond oil field and will continue to do so in absence of the proposed project activity.

After CDM Project Activity



Associated gas is recovered offshore, transported via a dense phase pipeline to a new separation plant to be located in the vicinity of Saltpond Town, where it is processed into useful energy products and delivered to the domestic market for productive use.

**Thank you for your attention
website:**

www.energycom.gov.gh

**My profound gratitude to U.S EPA for
the invitation and financially
supporting my participation in this
meeting.**

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