

# SANGOMAR FIELD DEVELOPMENT PHASE I



Woodside and PETROSEN workers outside the Léopold Sédar Senghor FPSO in Singapore

The Sangomar field (formerly the SNE field), containing both oil and gas, is located 100km south of Dakar and will be Senegal's first offshore oil development. First oil production is targeted for late 2023.

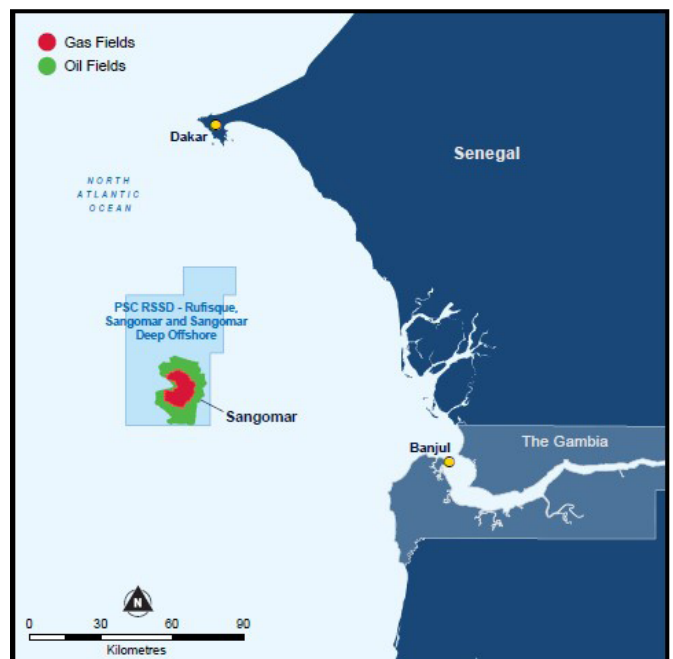
The Rufisque Offshore, Sangomar Offshore and Sangomar Deep Offshore (RSSD) Joint Venture\*, comprising Woodside Energy (Senegal) B.V. (Woodside) (Operator) and La Société des Pétroles du Sénégal (PETROSEN), is committed to the development of Sangomar field in accordance with international industry best practice and relevant government regulations.

The initial phase is referred to as the Sangomar Field Development Phase 1 (the Sangomar Field Development). This phase will focus on developing the less complex reservoir units and testing other reservoirs. The field is spread over 400 km<sup>2</sup>, in water depths of 700 - 1400 m. This phase of the development will target ~ 230 million barrels of crude oil.

The development includes the installation of a stand-alone floating production storage and offloading (FPSO) facility and subsea infrastructure that will be designed to allow subsequent development phases. The FPSO is named Léopold Sédar Senghor after Senegal's First President.

The Sangomar Field Development was approved by the RSSD Joint Venture and entered into the execution phase in January 2020, following the receipt of all required government approvals and the execution of key contracts.

Work is well progressed on the Sangomar Field Development with the construction activities for the project 82% complete as at 31 March 2023.



Map showing Sangomar field within the permit acreage.

\* Woodside 82%, PETROSEN 18% for exploitation area and Woodside 90%, PETROSEN 10% for evaluation area.



## Drilling and subsea

The extensive drilling and completions campaign for the Development commenced in July 2021. The campaign involves the drilling of 23 production, gas and water injection wells.

The reinjection of gas and water will help maximize the recovery of the oil and enable the gas to be stored in the reservoirs for future use. The drilling campaign will be undertaken using two drill ships from Diamond Offshore Drilling International, the Ocean BlackHawk and Ocean BlackRhino.

The 23 wells will be connected by specially designed subsea units that will be installed to ensure the safe and controlled flow of oil between the wells and the FPSO. Subsea Integration Alliance\* was awarded the contract for the construction and installation of the integrated subsea production systems and subsea umbilicals, risers and flowlines.

Subsea equipment fabrication is progressing on schedule across multiple international locations and the subsea installation campaign commenced in August 2022.

\* Subsea Integration Alliance is a non-incorporated strategic global alliance between Subsea 7 and OneSubsea.



The drilling ship Ocean BlackRhino in Senegalese waters.

## FPSO

The Sangomar Field Development FPSO, the *Léopold Sédar Senghor*, is a vessel specifically designed for the processing of hydrocarbons and the storage of oil. The FPSO processes the hydrocarbons through a series of facilities located on the deck which separates the different fluids from the crude oil. The processed crude oil is stored in tanks located in the hull of the FPSO before being offloaded via a flexible floating pipe to tankers which transport the crude oil to global markets.

The FPSO will be permanently moored above the field in a water depth of approximately 800m. The mooring system is fixed to a turret on the bow of the vessel, which allows the FPSO to pivot according to local weather and marine conditions. The FPSO is 372m long and up to 60m wide and will require an operational workforce of up to 140 people, along with logistics and other support services provided through Woodside and contractor-operated facilities in Senegal.

The FPSO will have a production capacity of approximately 100,000 barrels per day of crude oil, which will provide revenue to help deliver sustainable long-term economic and social benefits for Senegal.

Construction of the FPSO has involved the conversion of a very large crude carrier (VLCC) oil tanker and the fabrication of the FPSO topsides, turret and mooring systems. MODEC International is the lead contractor for the FPSO. Conversion and construction activities commenced in the first half of 2021 in fabrication yards in China. The FPSO was relocated in November 2022 to the Keppel Shipyard in Singapore to complete topside integration and commissioning scope. The FPSO will then be towed to the Sangomar Field and installed for targeted first oil production in late 2023.



Artist impression of the FPSO *Léopold Sédar Senghor* for the Sangomar Field Development.



## Support services

Woodside has been working with project contractors to establish supply chain, support facilities and logistics services in Senegal to support the Sangomar Field Development.

These services include transport of goods and consumables from the Port of Dakar, supported from onshore facilities. Helicopters transport the workforce to and from the FPSO, supported from a network of contractors and service providers involved in the day to day operations.

In 2021, several new facilities were constructed in Dakar, which establishes the foundations of support services for the oil and gas industry in Senegal. The new facilities include and are not limited to:

- + Upgrades to Mole 1 at the Port of Dakar for the establishment of Senegal Supply Base.
- + A liquid mud plant at the Port of Dakar.
- + Multiple drilling services workshop and yards.
- + Newly established country head office for Woodside.

The support services for the Sangomar Field Development is employing hundreds of Senegalese workers and engaging hundreds of local businesses.



Sumitomo workforce at the Tubular Yard in Dakar.

## Local content

Woodside is working closely with its contractors to maximize local content benefits for Senegal and is committed to working with the Government of Senegal, local communities and businesses to realize the potential opportunities and benefits from this nationally significant development.

Woodside has built in local content commitments with our key contractors to ensure opportunities are maximized for Senegalese people and suppliers. This will help build a local workforce, support capacity building and deliver long-term economic and social benefits to communities. We remain committed to achieving local content outcomes and seek to better understand the evolving legislative framework in Senegal.

Woodside has continued its support for Senegal's National Institute of Oil and Gas (INPG) to enhance the development of a 10 year business and operational plan. Woodside continues to work with INPG for funding of its strategy which includes training and equipment, technical assistance and practical site-based learning, and support towards a fully functioning health, safety and environment vocational training center.

Since establishing a country office in Senegal in 2017, Woodside has increased its local presence with a new office and growing corporate workforce in addition to the Sangomar Field Development contractors. Woodside and its contractors will continue to grow and train a local workforce to support operations into the future.

In March 2023, the Woodside team welcomed 15 Senegalese trainees to the FPSO Léopold Sédar Senghor during its pre-commissioning phase at the shipyard in Singapore. The trainees are participating in a program run by lead contractor MODEC, which has seen some of them spending time learning on MODEC facilities in Brazil. Trainees work alongside Woodside colleagues in Singapore to gain practical experience and build the competencies needed for FPSO operations.

Overall, the Sangomar Project including contractors has delivered 40,000 training hours for Senegalese people, signed more than 1000 contracts with local businesses and employed more than 4400 Senegalese people.



Woodside and MODEC employees working together on the Sangomar FPSO in Singapore

## Community

Woodside and the RSSD Joint Venture are committed to working sustainability. This approach is fundamental to maintaining our social license to operate through delivery of long-term economic and social benefits to the people of Senegal. This includes a commitment to ongoing engagement with a wide range of stakeholders including government authorities, businesses and local communities so that all stakeholders understand the potential benefits and impacts of the Sangomar Field Development activities and the ways in which they can provide feedback.

Woodside plays an active role in contributing to the wellbeing and sustainability of the communities we are part of. As part of Woodside's ongoing commitment to supporting local communities, two new social investment programs were agreed in 2021 in addition to contributions to COVID-19 relief in Senegal:

- + Wetlands International Africa aims to build community resilience in the Saloum Delta through ecosystem restoration and conservation and capacity building for climate resilience.
- + Panafricare aims to improve the living environment and the sustainable management of waste from fishing docks and households in the areas affected by the project. It strengthens the capacities and socio-economic power of women active in the fishing sector through the diversification of their activities and better access to financial services.



Visit to Wetlands International site in Palmarin

These programs build upon Woodside's recognition of the importance of fisheries for the Senegalese people. Through a robust understanding of the marine environment and the integration of good industry practice in the planned design, construction and operations of the Sangomar Field Development, Woodside will ensure that our activities will have a minimal impact on this important industry. Woodside maintains ongoing dialogue with the artisanal and industrial fishing industries.

Woodside maintains a community grievance mechanism for the Sangomar Field Development, which addresses community concerns and aims to resolve complaints as quickly as possible at the local level.

## Environment

The primary environmental approval for the Sangomar Field Development was provided by the Government of Senegal in 2019.

The approved Environmental and Social Impact Assessment (available in French and English on Woodside's website) assesses the potential benefits and impacts that activities associated with the Sangomar Field Development may have on the physical, ecological and socio-economic environment, and proposed mitigation measures to address these impacts.

Woodside has and continues to provide capacity building and training support to the Government of Senegal for the regulation and management of oil and gas activities.

To find out more about Woodside's Sangomar Project and our approach to climate change please visit our website:



*This fact sheet contains forward-looking statements with respect to Woodside's business and operations which reflect Woodside's views held as at the date of this fact sheet. Forward-looking statements are not guarantees of future performance and are subject to inherent known and unknown risks, uncertainties, assumptions and other factors, many of which are beyond the control of Woodside, its related bodies corporate and their respective officers, directors, employees, advisers or representatives. Investors are strongly cautioned not to place undue reliance on any forward-looking statements. Actual results or performance may vary materially from those expressed in, or implied by, any forward-looking statements.*



## Further information

This Overview, along with other information on Woodside's Sangomar Field Development, is available at [www.woodside.com](http://www.woodside.com)

Proposed developments are subject to joint venture approvals, regulatory approvals and relevant commercial arrangements. Therefore, development concept and timing may be subject to change.

If you require further information or would like to comment, please contact Woodside by email to [developpementsangomar@woodside.com](mailto:developpementsangomar@woodside.com) or call +221 76 223 43 41.

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All information is current as at April 2023.

[www.woodside.com](http://www.woodside.com)

