

SNE FIELD DEVELOPMENT – PHASE 1

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT SUMMARY

NOVEMBER 2018

SNE is a deep-water oil field discovery located in the Sangomar Deep Offshore Block off the coast of Senegal.

The joint venture, comprising of Woodside, Cairn Energy, FAR Ltd and Société des pétroles du Sénégal (PETROSEN) conducts its activities in accordance with the Rufisque Offshore, Sangomar Offshore and Sangomar Deep Offshore (RSSD) production sharing contract (PSC).

This fact sheet provides an overview of the SNE Field Development – Phase 1 (the Development) Environmental and Social Impact Assessment (ESIA).

What is an Environmental and Social Impact Assessment?

The purpose of the SNE Field Development – Phase 1 (the Development) Environmental and Social Impact Assessment (ESIA) is to:

- + Document the baseline condition of the environment and socio-economic status of the area of interest for the planned Development;
- + Assess how the Development activities will interact with the surrounding environment;
- + Quantify the impacts resulting from planned Development activities (eg. drilling and construction), and determine the risks associated with these activities;
- + Make available the management and mitigation measures which can be implemented to reduce the risks and negative impacts of the development; and
- + Provide a framework for environmental and social management over the life of the development.

What is contained in the ESIA?

The ESIA addresses the drilling, installation and commissioning of equipment and facilities, production and operations, maintenance and the decommissioning of associated infrastructure and facilities of the Development.

The ESIA process provides an opportunity for the potential concerns of stakeholders to be identified and addressed at an early stage, and provides a comprehensive summary of how the development will comply with applicable legislative requirements.

The ESIA report presents a comprehensive assessment of the Development including:

- + Description of the regulatory and policy framework
- + Description of the selected development concept and other development options considered
- + Overview environmental and socio-economic baseline condition and identification of the key sensitivities
- + Detailed summary of the stakeholder engagement process and outcomes including public consultation
- + The methodology and approach to assessing the potential risks and impacts on the environmental and socio-economic sensitives
- + Detailed assessment of the potential environmental and socio-economic risks and impacts
- + The outcomes of a detailed hazard study of the risks arising from all stages of the Development
- + An environmental and social management plan (ESMP) which describes the mitigation, management and monitoring measures which will be implemented to prevent, minimise or offset the environment and social risks and impacts identified in the ESIA.



How has the ESIA been developed?

The Development ESIA has been prepared in full accordance with Senegalese law, as determined by the *Direction de l'Environnement et des Etablissements Classés* (DEEC). The content of the ESIA has been determined by a Terms of Reference, validated by DEEC and the National Technical Committee (NTC) in April 2018.

The ESIA has combined good international oil and gas practice with the experience of a number of industry and Senegalese experts to complete a full and comprehensive assessment. The draft ESIA was initially submitted to DEEC in June 2018 and was subject to a period of review and comment by the NTC composed of various representatives of the Government of Senegal. This process ensures the technical content of the document is correct according to government stakeholders and experts prior to the public comment period.

The final SNE Field Development ESIA report will be submitted to DEEC following public consultations for consideration and approval.

Environmental and Socio-Economic Baseline Data Gathering

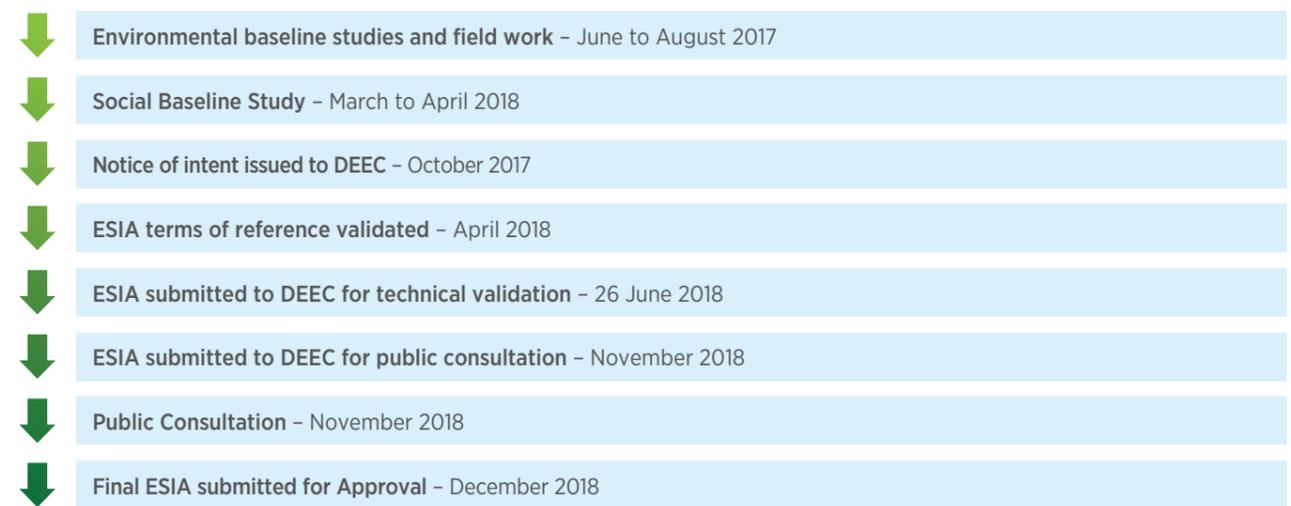
The environmental and socio-economic baseline characterisation for the SNE Development was compiled using a combination of desk based studies, site-specific studies and surveys and in consultation with key stakeholders.

Some of the key studies and surveys undertaken to inform the baselines such as:

- + Scoping study of biodiversity data availability (UN Environment World Conservation Monitoring Centre, 2017);
- + Detailed compilation of metocean data (Woodside, 2016);
- + Comprehensive geophysical and environmental site survey, including faunal observations, carried out for the SNE Development (Fugro, 2017a, b, c);
- + Coastal habitat mapping (Xodus, 2018a);
- + Survey of the artisanal fishing sector in the department of Mbour and the region of Fatick (Sarr et al., 2018);
- + Detailed shipping data analysis conducted as part of collision risk assessment (Anatec, 2018);
- + Investigation of historic fishing activity in the proposed location of the SNE Development subsea infrastructure (Xodus, 2018b).

In addition, an extensive social baseline survey was completed, which included engagement with 57 coastal villages in the Thies and Fatick region including the Sine-Siloum islands. As part of these engagements focus group discussions and local knowledge interviews with the Conseil Local de Pêche Artisanale and other key groups were undertaken in the main coastal fishing settlements to confirm artisanal fishing zones, the most sought-after fisheries, and the frequency of fishing activities in coastal areas and the Sangomar Deep offshore area.

Progress on SNE ESIA



Risk Identification

A series of detailed issue identification exercises were undertaken to identify the potentially significant environmental and socio-economic issues requiring discussion and assessment. This process involved experience industry participants and environmental and social professionals to provide a basis for detailed risk assessments.

The following key issues were identified in the ESIA:

ENVIRONMENTAL ISSUES	SOCIO-ECONOMIC ISSUES
+ Seabed disturbance	+ Economic impacts
+ Underwater noise	+ Shipping and other sea users
+ Physical presence of vessels and subsea infrastructure	+ Industrial and Artisanal fisheries
+ Atmospheric emissions	+ Occupational health and safety
+ Discharges to sea	+ Community health and safety
+ Waste generation	+ Tourism
+ Risk of accidental releases	+ Archaeology and cultural heritage
	+ Risk of accidental releases

Risk Study:

A Risk Study (Etude de Danger – EDD) has been produced in accordance with the guidance issued by the DEEC. Specifically, the study focuses on the potential risk of a highly unlikely major accident during the SNE Development activities. The Risk Study also describes Woodside's commitment to safe operations and outlines the key steps undertaken to ensure project technological hazards, risks and potential impacts have been appropriately considered and reduced or mitigated as needed.

To assess impacts and to determine risks, a robust impact assessment was used as defined in the ESIA which encompasses both planned and unplanned events and accounts for the full range of both routine impacts and credible risk scenarios associated with an activity. The ESIA process enables Woodside to identify and assess the potentially significant environmental and socio-economic impacts and risks associated with a project, and to determine the requirements for mitigation measures and management techniques.

Methodology and Assessment of Impacts:

The ESIA process involves the use of various studies, assessment tools and consultations to determine and assess the potential environmental and socio-economic impacts and risk associated with the SNE Field Development. Some of the key steps in the ESIA process include:

- + Scoping and consultation.
- + Undertaking of specialist surveys and studies to inform the ESIA, including baseline surveys and modelling studies to help understand potential impacts.
- + Compilation of the environmental baseline and the current socio-economic situation and how this would develop in the absence of the SNE Development.
- + Identification and assessment of risks and potential impacts associated with the preferred design for the Development, incorporating existing controls and good industry practice.
- + Identification of mitigation measures including design solutions and management control measures, over and above those already in place, that will remove or reduce potentially significant adverse impacts and risks or enhance benefits.
- + Detailed impact assessment of each of the key issues identified and determination of the significance of residual impacts and risks after the application of proposed mitigation measures.

Impact Assessment:

The aim of Impact Assessment is to inform the appropriate management of impacts that is the process to prevent, control, mitigate and/or manage impacts to a level determined to be guided by industry best practices known as As Low As Reasonably Practicable (ALARP). The ALARP process determines how a Woodside-managed activity is deemed to be acceptable and meets the relevant requirements whilst minimising impacts and ensuring ongoing and efficient operations.

To inform the impact assessment process, Woodside has commissioned numerous technical studies in order to assess impacts and to inform appropriate mitigation measures. A summary of the technical modelling studies is included in the ESIA.

For each identified impact resulting from a planned activity, the assessment of significance follows a six stage process:



Woodside engages with a wide range of stakeholders in the communities and invests in understanding and managing actual and potential impacts from our activities.

The Consultant

The Development ESIA has been developed by two globally recognised environmental consultants, Xodus Group and Dakar based environmental consultants Earth Systems SARL.

Xodus has extensive global experience in oil and gas developments and a large team of industry experts have been involved in the development of the ESIA. Xodus experience has been complemented by the in-depth knowledge of local Senegalese biological and socio-economic environments held by Earth Systems.

Earth Systems is accredited by the *Ministère de l'Environnement et du Développement Durable* to conduct impact assessments in accordance with the national legislation.

Public consultation

As the proponent of the Development, Woodside's approach to stakeholder consultation is to engage early and to build long lasting relationships with host communities.

Extensive consultation on the Development has already been undertaken as part of the ESIA development with key national, regional and local stakeholders, including government officials and local coastal communities between Dakar and The Gambia. Full details of the stakeholder engagement process are included in the ESIA.

Further public consultation will be conducted to complete the ESIA process as required by Senegalese law. Once these consultations on the draft ESIA have been conducted, additional feedback from consultations will be reviewed to ensure community views, concerns and suggestions are considered in the Development decision making where relevant and practicable.

Following ESIA approval, Woodside is committed to ongoing consultation with stakeholders over the life of the SNE Development.



Image of the Saloum Delta



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