REVIEW OF THE ENVIRONMENTAL GUIDELINES AND STANDARDS FOR THE PETROLEUM INDUSTRY IN NIGERIA (EGASPIN)

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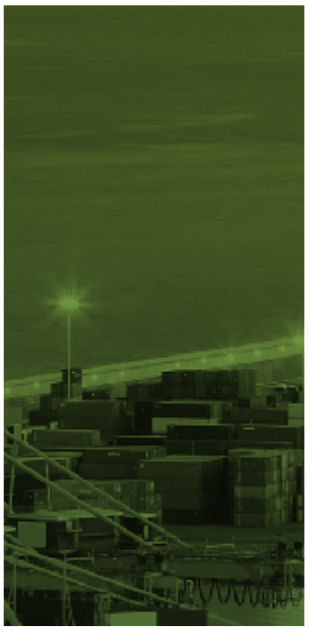

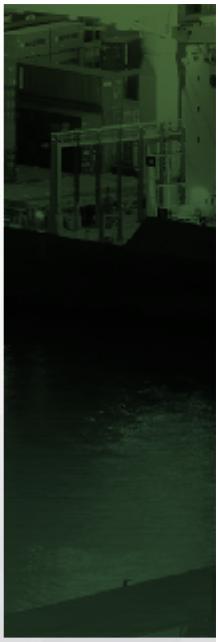

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Table of contents

List of abbreviations

AER	Alberta Energy Regulator
API	Angular plate interceptor
DPR	Department for Petroleum Resources
EGASPIN	Environmental Guidelines and Standards for the Petroleum Industry in Nigeria
EIA	Environmental impact assessment
FPIC	Free prior informed consent
IOCs	International oil companies
ISO	International Organization for Standardization
JIV	Joint Investigation Visit
NESREA	National Environmental Standards Regulatory and Enforcement Agency
NOSDRA	National Oil Spill Detection and Response Agency
OECD	Organization for Economic Co-operation and Development
PAH	Polycyclic aromatic hydrocarbon
SER	Single Energy Regulator
UNEP	United Nations Environment Programme

Executive summary

Since it was issued in 1991 by the Department for Petroleum Resources (DPR) at the Ministry of Petroleum Resources, the Environmental Guidelines and Standards for the Petroleum Industry in Nigeria (EGASPIN) has remained an important document in the Nigerian oil and gas sector. EGASPIN outlines environmental and safety standards that must be complied with by oil operators in Nigeria, to prevent, minimise, and control pollution from the various aspects of petroleum operations. According to the DPR, it is the intention of the Department 'to update this publication periodically as new knowledge becomes available.'[1] EGASPIN was subsequently revised and updated in 2002, 2016, and 2018.

Given the significance of EGASPIN in regard to enhancing environmental sustainability and good governance in the Nigerian oil sector, it is pertinent to review and assess various aspects of the 2018 EGASPIN in light of current knowledge and advancements in international best practices, laws, governance methodologies, and pollution control technologies. The objective of this study is to: (i) review and evaluate EGASPIN to determine its alignment with international best practice on environmental protection, especially during the approval, operations, and decommissioning phases of the oil and gas sector value chain; (ii) identify existing gaps; and (iii) provide recommendations on improvements that would increase EGASPIN's effectiveness.

The methodology approach is based on a mixed method study (consisting of a field survey; in-depth interviews; and focus group discussions) that was conducted in Abuja, Port Harcourt, and Lagos, Nigeria, from September 2018 to April 2019.[2] As presented in Appendices 1–3, the study also reviewed and compared EGASPIN with environmental policies, laws, and regulatory systems in five key comparator countries: the United States of America, the United Kingdom, Canada (Alberta), Oman, and Norway. These countries were chosen, from 75 possible oil and gas producing countries, based on their historically active levels of oil and gas activity, relative maturity, and accessibility of their governance instruments. In other words, frontier oil and gas producing countries that are similar to Nigeria with respect to having an active and mature oil sector, as well as accessible environmental legislation, were selected. Specifically, Oman was selected to provide examples from an oil producing developing country, credited by the United Nations as having one of the best environmental records in the world. On the other hand, the USA, UK, Canada (Alberta), and Norway all represent developed countries with very strong records of environmental protection in the oil and gas sector. This comparative mix of developing and developed country examples made it possible for robust and informed conclusions to be reached on what represents 'international best practices on environmental protection in the oil and gas sector'.

The study compared EGASPIN with the environmental regulation and processes in the comparator countries with respect to (i) stringency (how comprehensive are the environmental standards laid out in EGASPIN, especially with respect to target and intervention values?); (ii) transparency (how easily can the public get information on the application of EGASPIN?), and compliance (how robust are the processes and regulatory supervision arrangements in regard to enforcing compliance by operators?). International best practices on stringency, transparency, and compliance were established looking at three stages in the life-cycle of an oil and gas project: approval of the project, construction and operations, and closure or decommissioning.

[1] DPR, *Environmental Guidelines and Standards for the Petroleum Industry in Nigeria* 1991 (Revised Edition, 2002) <https://dpr.gov.ng/egaspin/> accessed 18 November 2018.

[2] This included extensive discussions and interviews with a wide range of key stakeholders, including operators and regulators, in the oil and gas industry in Nigeria. However, attempts to engage with senior personnel of the DPR in the Abuja and Lagos offices for comments and input into this review were unsuccessful. The feedback from the DPR was that it has already completed a comprehensive assessment and review of the EGASPIN and as such making input into this current assessment would be duplicative and unnecessary.

Due to the scope of the study, the nature of the methodological approach, and the fact that cultures, governance models and maturity of governments are highly variable, this
report can by no means be regarded as fully representative. However, since it is combined with a review of the literature, it builds a profile of the salient law, governance, and institutional gaps in the design and implementation of EGASPIN in light of the best available evidence, data, and observation. Larger benchmark and standardisation studies against other countries can be undertaken at a later stage, provided that the necessary staff time and funding are available.

EGASPIN, in principle, seeks to adopt best practice, using methods and guidelines that are consistent with international standards. However, transparency and accountability in interpretation and implementation remain very weak. This report and its recommendations aim to help stakeholders in the Nigerian oil and gas industry, especially the DPR, to improve EGASPIN's contribution to achieving efficient, safe, orderly, and environmentally responsible development of Nigeria's oil and gas resources.

1 Mapping EGASPIN's role in the oil and gas industry

Oil and gas production worldwide has been linked to a wide range of adverse environmental, social, and health outcomes, particularly when governance and institutional quality is low.[3] In Nigeria, for example, the adverse environmental impacts of oil and gas production in the Niger Delta area has been documented in several studies, including the 2011 report of the United Nations.[4] To address these impacts, international law has consistently advocated the need to ensure a prudent, rational, and sustainable use of oil and gas resources.[5] This means achieving profitable exploration and commercialisation of resources while minimising or eliminating the negative environmental footprint of oil production activities.[6] It also includes preserving and conserving water resources, managing public lands to avoid contamination, and protecting the environment while providing economic benefits for oil producing communities.

Oil and gas regulators worldwide continue to look for new ways to achieve an efficient, safe, orderly, and environmentally responsible development of oil and gas resources over their entire life-cycle.[7] To effectively manage the cumulative environmental risks of oil and gas activities, comprehensive and holistic environmental guidelines should be put in place and applied during the project approval, operations, and decommissioning phases of the oil and gas sector value chain.[8] A holistic environmental management framework moves beyond simply an upfront authorisation during approval phases, and focuses more on outcomes-based monitoring, including the transparent monitoring of significant environmental outcomes. A rigorous and transparent regulatory system with strong compliance requirements enables regulators to adequately address the cumulative and systemic environmental risks of oil and gas activities in line with international best practices.[9]

In this situation, and in order to unpack how EGASPIN fares in terms of stringency, transparency, and compliance, this study generated a questionnaire that could help different stakeholders to conduct their own assessment of EGASPIN following a common methodology. The questionnaire uses a set of criteria to describe and assess EGASPIN's role over the life-cycle of an oil and gas project: approval of the project, construction and operations, and closure or decommissioning. Each component is summarised in the table below. By providing a space for policy dialogue to different

[3] Natural Resource Governance Institute (2017) 2017 Resource Governance Index. <https://resourcegovernance.org/sites/default/files/documents/2017-resource-governance-index.pdf> accessed 21 November 2018.

[4] According to the report, it could take 25–30 years to reversing many of the environmental and social consequences of oil spillage in the Niger Delta. United Nations Environment Programme (UNEP) (2011) 'Environmental Assessment of Ogoniland', p. 12.

<https://wedocs.unep.org/bitstream/handle/20.500.11822/25282/ogoniland_chapter1_UNEP_OEA.pdf?sequence=1&isAllowed=y> accessed 21 November 2018.

[5] Principle 8 of the 1992 Rio Declaration on Environment and Development, adopted 14 June 1992. See '1992 Rio Declaration' A/CONF.151/26 (Vol. I) Report of the United Nations Conference on Environment and Development. See also International Law Association (2012) 'New Delhi Declaration of Principles of International Law Relating to Sustainable Development', the 70th Conference of the International Law Association, New Delhi, April 2002; which, as its first principle, lists that 'States are under a duty to manage natural resources, including natural resources within their own territory or jurisdiction, in a rational, sustainable and safe way... and to the conservation and sustainable use of natural resources.' Moreover, States have a 'duty to avoid wasteful use of natural resources.' Also, Raphael J. Heffron *et al*. (2018) 'A Treatise for Energy Law', *Journal of World Energy Law and Business*, 2018, 11, pp. 43–50.

[6] Damilola Olawuyi, *Principles of Nigerian Environmental Law*, Afe Babalola University Press, pp. 172–207; also MC Cordonier Segger (2008), 'Sustainable Development in International Law', in HC Bugge and C Voigt, eds. (2018) *Sustainable Development in International and National Law*, Europa Law Publishing.

[7] See for example Alberta Energy Regulator, "Our Mandate" < https://www.aer.ca/providing-information/about-the-aer/who-we-are> accessed 21 November 2018.

[8] Olawuyi, *Principles of Nigerian Environmental Law* (n. 6).

[9] Raphael J. Heffron *et al*. (2018) 'A Treatise for Energy Law', *Journal of World Energy Law and Business*, 2018,11 pp. 43–50.

stakeholders, with diverse views and diverging interests, we sought to improve mutual understanding amongst industry stakeholders on the scope of EGASPIN.

Table 1: Elements of a holistic environmental management framework

Component	Key considerations and questions
Stringency Obtaining and maintaining permits and licences for oil production projects should be a comprehensive process. The environmental, social, and health implications of the project, along with its benefits, should be holistically considered so that impacts can be avoided, reduced, or mitigated.	Is there a clear, comprehensive, and legally binding legislative framework for oil sector pollution? Is an environmental impact assessment (EIA) required for project approval? What is the average time and cost to obtain an approval? How many regulators review applications? Are there opportunities for the public to review and comment on EIAs? How rigorous are the waste limitation standards? Are target and intervention values of soil, land, and water combination strict and rigorous? Are there requirements for post-approval monitoring, facility licence renewals, cumulative effects, and closure planning? Are there decommissioning requirements and government security requirements?
Compliance Once a project is approved, operators must meet prescribed environmental guidelines and regulations over the entire life-cycle of their operations. This includes continuing to monitor air, soil, and water, as well as any potential impacts on wildlife. Furthermore, the regulator must continue to monitor the operation to ensure rules are being followed.	Does the regulator have the mandate to enforce environmental regulations? Are there consequences for non-compliance (and what are they: fines, shut in, and/or imprisonment?) Does the regulator publish a list of regulatory infractions/non-compliance events/fines and penalties? Is long-term monitoring required past the end of the life of the facility? What are the types of mechanisms put in place to ensure that the conditions contained in the regulatory approvals are followed?
Transparency Over their entire life-cycle of oil and gas operations, the channels through which the community and key stakeholders who may be affected by oil and gas activities access information must be clear, credible, and reliable. Environmental legislation must allow free, prior, informed, consent (FPIC) of the stakeholders to the activity; as well as frequent, timely, and detailed reporting on how environmental standards are applied in project approval, construction and operations, and closure or decommissioning.[10] The regulatory system must be open and transparent – any compliance violations and steps taken to address them should be available for the public to review.	How easily can the public get information? Is there a duty to consult stakeholders? Are stakeholders able to provide input and/or intervene on project applications? If so, how or what categories of stakeholders can intervene (those directly affected only, or all stakeholders)? Is there a process for auditing the regulator itself?

[10] International Monetary Fund (IMF) Fiscal Affairs Department (2012), 'Fiscal Transparency, Accountability, and Risk', IMF, in collaboration with the Statistics Department, approved by Carlo Cottarelli < www.imf.org/external/np/pp/eng/2012/080712.pdf> accessed 21 November 2018. (The 'IMF report').

2 EGASPIN: Strengths and limitations

The primary strength of EGASPIN is that it sets out comparatively robust environmental standards and requirements that must be met by operators during the project approval, operations, and closure or decommissioning phases. It identifies three primary sources of pollution in the oil industry: oil spills, discharge of effluents, and gas flaring.[11] It also provides guidelines on how to minimise noise and vibration associated with seismic and blasting operations.[12] It sets out express prohibitions and limitations that set to minimise and eliminate the negative environmental footprint of these categories of pollution.

As presented in Appendix 1, EGASPIN's discharge limitation standards and prescribed testing methods mirror international best practices and standards in place in the comparator countries – the US, the UK, Norway, Alberta (Canada), and Oman. Some of the key principles of environmental law, such as the polluter pays principle, are well recognised and enshrined in EGASPIN.[13]

This comparison shows that EGASPIN, in principle, seeks to adopt best practice, using methods and guidelines that are consistent with international standards. However, interpretation and implementation remain key issues. As seen in Appendix 1, unlike the environmental guidelines in the comparator countries, a number of gaps appear which limit the overall efficiency of EGASPIN in terms of stringency, transparency, and compliance. This indicates that more work needs to be done to harmonise EGASPIN's target values to the local conditions.

2.1 Stringency

EGASPIN grants a significant level of discretion to the DPR to intervene and permit discharges even when limitation standards are exceeded. The phrase 'unless otherwise permitted by the Director of Petroleum Resources' appears in a number of key sections of EGASPIN.[14] While this by itself is not a conclusive threat to environmental protection, it raises significant questions on how such approvals are granted by the DPR. Lack of clarity in these areas can impact both the regulator and operator in a variety of areas: transparency, predictability, timeliness, cost-effectiveness, possible duplication of roles between DPR and National Oil Spill Detection and Response Agency (NOSDRA), and (non-) availability of information on how many such applications were made and subsequently granted or denied.

Similarly, the 'target values' laid out in EGASPIN are extremely high and not strict enough to deter pollution. EGASPIN defines target values as the soil quality required for sustainability or for 'the full restoration of the soil's functionality for human, animal and plant life', while intervention value refers to the soil quality 'for which the functionality of soil for human, animal and plant life are, or threatened with being seriously impaired. Concentrations in excess of the intervention values correspond to serious contamination.' As demonstrated in Appendix 1, while the comparator countries set a low threshold (strict) for target and intervention values in order to discourage pollution, the values indicated in EGASPIN are very high. For example, the maximum tolerated concentrations for heavy metals such as benzene, toluene, mercury, lead, and cadmium are very high and are roughly three times as high as those laid out in guidelines by international organisations such as the World Health Organization (WHO), the European Commission, the Organisation for Economic Co-operation and Development (OECD), and the International Organization for Standardization (ISO).[15] Furthermore,

[11] See IMF report, p. 44.

[12] See EGASPIN.

[13] See Section 6.5, which states that 'such licencee/lessee shall bear all the costs associated with the investigation, remediation and monitoring, even when same are conducted at the discretion of the Director, Petroleum Resources.' Ibid.

[14] Ibid., pp. 11, 47, 64, and 96.

[15] EGASPIN standards for PAHs in groundwater appear to be very similar to the *Netherlands' Standards for Chemicals of Special Concern* of 1994, but the Dutch standards are much lower (stricter) in their target values.

unlike comparator countries, target and intervention values for soil and surface water are not provided in EGASPIN.

Furthermore, EGASPIN does not cover several poly-aromatic hydrocarbons (PAHs), or a number of toxic pollutants, aromatics, aliphatic, inorganic compounds, heavy metals, chlorinated aromatics, persistent surfactants, and other additives that are known to be toxic and harmful to the environment. For example, only 10 PAHs are included in 2018 EGASPIN standards for groundwater values, even though the US standard has 16 PAHs.[16] In light of available information and international best practice, it is necessary to include a more comprehensive list of toxic PAHs, as well as a rigorous and updated set of values, to prevent pollution and ensure remediation and rehabilitation of biodiversity and habitats to support ecosystem recovery. To achieve stringency, the range of PAHs in the EGASPIN standards should be increased to include all the 16 US Environmental Protection Agency PAHs. EGASPIN also needs to be amended to include a wider range of pollutants.

In calculating values for risks to biodiversity, human use, and land use receptors, the *Alberta Tier 2 Soil and Groundwater Remediation Guidelines* (2010) and the *Alberta Soil and Water Quality Guidelines for Hydrocarbons at Upstream Oil and Gas Facilities* (2001) could provide important guidelines for deriving appropriate target and intervention values for Nigeria. Such a process must be supported by field trials and local testing activities in order achieve informed and realistic values that would support ecosystem recovery in the light of local circumstances, such as temperature and topography.

Case Study 1: Mobogbobara community, Biara – remediation and pipeline replacement

The Mobogbobara spill and eventual cleanup in 2014 demonstrates issues around the stringency of standards and limits for heavy metals concentration during the cleanup of spills. After the cleanup was carried out in May/June of the same year, a certification was sought from NOSDRA and approval was given.

However, the operator requested and received approval from the DPR for pipeline replacement. In the process of excavation and replacement, oil residues were discovered across areas that had already undergone cleanup. The residues contained heavy amounts of total petroleum hydrocarbon sub-surface. This degree of contamination calls into question the target values laid out in the 2018 EGASPIN, the parameters for certifying cleanup and closeout, as well as the stringency of related regulations as enforced by the DPR and NOSDRA.

When this issue was highlighted to a senior environmental engineer with the NOSDRA South South Zonal office, his response was that at the time of certification, the remediation exercise would have been within the limits set by EGASPIN, and as such the certification could not have been made in error. However, he mentioned that a key problem with such cases is the issue of re-pollution and re-impact that occurs after certification. This increases the PAH contents in contaminated and remediated sites.

Nonetheless, there are several cases with the same contamination/certification discrepancies. For example, Goi in Ogoni (Shell, 2004/6), Ikebiri Bayelsa state (AGIP, 2018), Oruama, Bayelsa (2017), Ikot Adaudo and Ikot Abasi (Akwa Ibom, 2016)

The similarity across these cases relates to the discrepancies between the certification of prevailing limits and site visit/verification by independent stakeholders. While the operators claim cleanup and intervention have been carried out and certification justified, physical verification and surface inspection shows obvious contamination.

[16] EGASPIN includes the following PAHs: Napthalene Anthracene Pjenantrene Fluoranthracene Benzo(a) anthrancene Chrysene, benzo (a) pyrene, benzo (ghi) pryrelene, benzo(k) fluoranthene and indeno (1,2,3 -cd) pyrene. See EGASPIN Table VIII-F1, p. 279.

2.2 Compliance

The second key concern shared by all participants in the survey was the role of the DPR as the licensing and permitting authority for oil operations, as well as the enforcement authority for environmental pollution. Balancing the objectives of achieving regulatory effectiveness in enforcing environmental standards, while allowing for economic development, is one of the primary challenges that participants expressed as limiting trust in the ability of the DPR to effectively enforce the provisions of EGASPIN. The DPR has long been considered to suffer from a conflict of interests. For example, the 2011 UNEP report concluded that: 'There is clearly a conflict of interest in a ministry which, on one hand, has to maximize revenue by increasing production and, on the other, ensure environmental compliance.'[17]

As seen in Appendix 2, all the comparator countries adopt a dualist approach under which the licensing of petroleum operations fall within the remit of separate energy ministries and/or the national oil company, while enforcing environmental standards in the oil sector in within the purview of the national environmental agency or ministry. For example in Alberta, Canada, the Alberta Energy (Ministry of Energy) is responsible for issuing petroleum and natural gas licences for Crown lands, while the Alberta Energy Regulator (AER) serves as the single regulator responsible for approving all stages and aspects of oil and gas development activities.[18] The AER administers all laws applicable to the oil sector, ranging from access to land, water use, and EIA, requests to drill a well, to requests to build a pipeline, as well as land and surface reclamation.[19] The AER operates at arm's length from the Government of Alberta and is not a department or agency of the Alberta Energy Ministry. Furthermore, to ensure its independence, the AER is 100% funded by industry and is authorised to collect funds through an administrative fee levied on oil and gas wells, oil sands mines, and coal mines.

The Nigerian approach does not adequately fit within the dualist approach. While the DPR is responsible for the licensing of petroleum activities, as well as supervising EGASPIN, a number of other agencies have similarly important environmental protection functions. For example, NOSDRA is an agency establish to respond to oil spills in the oil sector. Similarly, the Environmental Impact Assessment Act, which applies to the oil and gas industry, is by law under the purview and supervision of the National Environmental Standards Regulatory and Enforcement Agency (NESREA), Nigeria's national environmental protection agency. Furthermore, the Ministry of Petroleum Resources maintains the right to approve pipeline development projects.[20] Participants in the survey all concluded that this labyrinth of regulation in the oil sector has not fostered a clear, coherent, and consistent understanding of EGASPIN's relationship with the NESREA Act and the NOSDRA Act, as well the roles of supervisory bodies established under this overlapping legislation.[21] For example, EGASPIN requires that all spills shall be reported to the Director of Petroleum

[17] UNEP (2011) 'Environmental Assessment of Ogoniland', p. 139. <https://wedocs.unep.org/bitstream/handle/20.500.11822/25282/ogoniland_chapter1_UNEP_OEA.pdf?sequence=1&isAllowed=y> accessed 21 November 2018.

[18] AER has authority to: review and make decisions on proposed energy projects, oversee all aspects of energy resource activities in accordance with government policies, regularly inspect energy activities to ensure that all applicable requirements are met, penalise companies that fail to comply with AER requirements, and hold hearings on proposed energy developments. As the single regulator, it is responsible for all energy-related applications under the Energy Resources Conservation Act, the Oil and Gas Conservation Act, the Public Lands Act, the Water Act, the Environmental Protection and Enhancement Act, the Mines and Minerals Act, the Coal Conservation Act, the Gas Resources Preservation Act, the Oil Sands Conservation Act, the Pipeline Act, and the Turney Valley Unit Operations Act.

[19] Alberta's Ministry of Environment and Parks administers policies governing the management of water resources and renewable natural resources. See Alberta Environment and Parks <http://aep.alberta.ca/about-us/default.aspx> accessed 21 November 2018.

[20] See Section 3 of the Oil Pipelines Act, Ch 338 Laws of the Federation of Nigeria 1990.

[21] Other agencies with oversight functions in the oil sector include: the Nigeria Content Development and Monitoring Board, the Petroleum Products Pricing Regulatory Agency, and the Petroleum Equalisation Fund.

Resources, while NOSDRA also contains a similar reporting requirement that mandates operators to report oil spills to NOSDRA.[22] This creates regulatory duplication and overlap.

Furthermore, while EGASPIN contains provisions on oil spill preparedness, detection, and response, it is not as comprehensive as the NOSDRA Act. One contradiction, however, is that powers of enforcement in the oil sector remain with the DPR and not NOSDRA. As one participant from NOSDRA remarked: 'The challenge is not the document but the institutional framework. For example, operators want to know whether if they send their oil spill reports to NOSDRA, they have complied with the law even if they fail to communicate it to DPR and vice versa. Also, given that NOSDRA has no power to shut down operations or impose fines, there is a huge gap in our ability to enforce compliance with the provisions of the NOSDRA Act.'[23] This gap leaves the DPR as the enforcement of agency for oil spills, even though EGASPIN does not contain the same robust standards on oil spill detection and remediation as contained in the NOSDRA Act.[24]

All participants share a common interest in seeing environmental supervision and regulatory functions transferred to a distinct single energy regulator (SER), which would, in the mould of Alberta's AER, be at arm's length from the DPR and tasked with harmonising and administering all laws applicable to the oil sector, ranging from those relating to EIA, access to land, water use, and requests to drill a well, to those governing requests to build a pipeline, as well as land and surface reclamation. Pooling together complementary functions and resources under a SER can: foster synergies and help stakeholders to better share risks and responsibilities, as well as to attract new resources or to use existing resources (including human, material, and financial resources) more effectively to achieve an efficient, safe, orderly, and environmentally responsible development of oil and gas resources over their entire life-cycle. Multi-stakeholder partnership, through the development of an integrated regulation system, has been promoted globally as providing an efficient platform for different regulatory stakeholders to come together and tackle a common issue that no stakeholder would have been able to tackle alone.[25] A SER approach can achieve the dual purpose of increasing regulatory effectiveness while reducing the overall regulatory maze and burden.

Case Study 2: Clough Creek | Bayelsa State

Type: Oil field
Area: Bayelsa
Products: Crude oil
Owner: Nigerian Agip Oil Company
Shareholders: NNPC (60%), Eni (20%), Oando (20%)
Coordinates: 4.851854, 5.691443

Clough Creek is a crude oil production platform located in Tebidaba. Operations at Clough Creek represent a veritable case of the externalities that arise from regulatory inadequacies.

[22] Section 5.6.2 and 5.6.3 of the 2018 EGASPIN.

[23] NOSDRA's power to impose fines without recourse to a court of law has also been successfully challenged in the case of *NOSDRA v MOBIL PRODUCING NIGERIA UNLIMITED* (2018) LPELR-44210 (CA), where the Court of Appeal held that the imposition of penalties by NOSDRA was *ultra vires* its powers. The court noted: '…the imposition of penalties by the Appellant was ultra vires its powers... Penalties or fines are imposed as punishment for an offence or violation of the law. The power as well as competence to come to that finding belong to the Courts and the Appellant is not clothed with the power to properly exercise that function in view of the law creating the Appellant (NOSDRA). There is therefore a Lacuna in that law creating the Appellant.'

[24] Although the *NOSDRA Amendment Bill 2018*, recently passed by the National Assembly and awaiting Presidential consent, empowers NOSDRA to impose fines for non-compliance with timelines for oil spill reporting and remediation, it is unclear if and when this bill will become law. It is also unclear how this new power will overlap with the oversight roles of the DPR.

[25] M Beisheim, N Simon (2016) **'**Multistakeholder partnerships for implementing the 2030 Agenda: improving accountability and transparency', Analytical paper for the 2016 ECOSOC Partnership Forum 11, March 2016 < www.un.org/ecosoc/sites/www.un.org.ecosoc/files/files/en/2016doc/partnership-forum-beisheim-simon.pdf> accessed 21 November 2018.

Current compliance standard:
Discharge limit: total dissolved solid (2000±), pH (6.5 – 8.5), oil/grease content (10), total suspended solid (TSS) (>30)
Rate of monitoring (production platforms, terminals, tank farms): once per week; once per month

Stringency/monitoring and compliance issues:

The current state of the production process at Clough Creek is one where the engineering allows for produced water exceeding the limits to be discharged directly into the creek. The production and transportation logic at the Clough Creek platform moves water, oil, and gas through a drain line to an angular plate interceptor (API) – metal reservoir – where the product is then loaded into vessels that move to a brass terminal for separation. Without a produced water treatment plant at Clough Creek, any volume of discharge means that concentrated and untreated produced water above the recommended limit is discharged directly into the environment, highlighting severe limitations around compliance enforcement.

The key issue here is that there are two points from which produced water (waste water) is discharged into the environment. These are points that are subject to regular inspection by the regulating agency. The first point is the transportation of produced water from the drainpipe to the API: produced water overflows directly into the creek. The second point is when produced water exceeds the carrying capacity of the API and overflows.

These are monitoring and compliance deficiencies. As a key informant with knowledge of the Clough Creek operations noted, they have not had on-site physical inspection visits from the DPR in months, while the regulation states a monitoring frequency of once per week/month. However, the informant also mentioned that this may not mean that they do not have actual inspection reports for the said period.

Interview respondents agree that although a SER would be a useful innovation, it could face some practical challenges. Further and wider stakeholder engagement must be undertaken to improve understanding of the SER approach. Some industry participants, particularly large oil and gas companies, believe they may have to undergo a major process change to comply with SER requirements, including the need to consolidate various reporting requirements. Many believe they may have to revisit their EIA consultation process if the SER requires a different focus and planning for stakeholder engagement. Respondents also expressed concern that PBR may significantly impact development planning processes. Clarifying these concerns requires a greater, more holistic study to understand SER in Nigeria's context.

Another significant concern raised is the need to clarify the legal status of EGASPIN as a regulatory instrument in Nigeria's oil and gas sector. EGASPIN's current legal status flows from Section 8 of the Petroleum Act, which allows the Minister of Petroleum Resources to 'exercise general supervision over all operations carried on under licenses and leases' granted under the Act. Section 9 also permits the Minister to prescribe regulations concerning safe working and the prevention of pollution in the oil sector. In exercise of its oversight functions, the DPR, under the authority of the Minister, released EGASPIN to address oil-related pollution in the oil sector. While the legal basis of EGASPIN is clear, it is not an act of the National Assembly; neither has it passed through an extensive legislative debate process. This situation seems to suggest that EGASPIN remains purely a guidance document, rather than having the force of law. As reflected in Appendix 2, in the comparator countries, oil sector pollution is addressed by legally binding environmental legislation that stipulates standards, enforcement, and punitive measures for default. Given the plenitude of environmental challenges facing the Nigerian oil sector, stringent and rigorous environmental legislation, with robust input from local communities and stakeholders, is crucial. Such legislation can be the basis for aggregating the environmental regulatory functions into a SER with oversight over oil pollution prevention, remediation, and response.

2.3 Transparency

One chief weakness of EGASPIN is that it fails to provide clear and robust opportunities for stakeholders to provide input and/or intervene on project applications. International law has increasingly recognised the need for resource development projects to proceed only with FPIC from local communities that could be affected by the projects.[26]

Even though EGASPIN contains a requirement for an operator to 'identify and discuss the management and/or implementation of environmental impacts with stakeholders', it does not clearly define who qualifies as a stakeholder, neither does it provide clear guidance on the methods that interveners can use to provide input. Furthermore, implementing FPIC goes beyond 'discussing' with stakeholders: it is a robust and participatory process that seeks to allow members of the affected public to take part in, and influence, decision-making processes on whether the project should be approved to proceed, in light of available information.[27] In the UK and North Dakota (US), all stakeholders may intervene in a project application to challenge environmental impacts. Alberta and Norway adopt a narrower threshold that allows only those directly affected by a project to intervene. Furthermore, in Alberta a project operator or applicant must demonstrate that the project is in the 'best interest' of the public before it can be approved to proceed.

In the operations phase, communities are supposed to be involved in any oil spill or clean-up investigation. However, local communities in Bodo, as well as other Niger Delta communities, have perennially claimed that Joint Investigation Visit (JIV) investigations proceed without the local chiefs, kings, or youths being informed.[28]

Case Study 3: Ikarama spill, JIV 2011/12 SPDC

The Ikarama 2011 spill from a Shell facility in the community is one example that highlights the issue of transparency in operations. In this instance, the transparency of the JIV process which sought to determine the cause of the spill was called into question.

This case is significant as it highlights key issues of community participation and stakeholder selection in a JIV process. Due to delay in response time, spilled oil was dispersed across a number of different communities. The impacted area covered land within two communities: Ikarama and Joinkarama in Bayelsa and Rivers states, respectively.

Two problematic issues were raised regarding the visit. First, the impacted area was large and inaccessible by vehicles or boats, and the investigating team had to walk for about three hours to reach the site. A key informant who participated in the visit noted that the team was exhausted and only able to visit one of the impacted areas. However, they noted that all areas were visited. The second community had to petition the regulator and the operator as it did not include them in the JIV process. This led to a second visit.

The second issue that arose regarding the visit was one of community representation and determination of the cause of spill. While the operator maintained that the community representatives that joined the visit agreed that cause of the spill was sabotage, a different group from the community maintained that the cause was equipment failure and that the operators used security agencies to coerce community reps to acquiesce to sabotage.

[26] See J Ruggie (2011) 'United Nations Guiding Principles on Business and Human Rights: Implementing the United Nations 'Protect, Respect and Remedy' Framework'; UN Document A/HRC/17/31 (21 March 2011), paras 8-12; also UNEP (2012) *UN-REDD Programme Guidelines on Free Prior Informed Consent*, p. 7.

[27] See J Ruggie (2011) 'United Nations Guiding Principles on Business and Human Rights: Implementing the United Nations 'Protect, Respect and Remedy' Framework', UN Document A/HRC/17/31 (21 March 2011), paras 8-12. See also Damilola Olawuyi (2016) *The Human Rights Based Approach to Carbon Finance*, Cambridge University Press, pp. 1–15.

[28] See Amnesty International (2013) 'Bad Information: Oil Spill Investigations in the Niger Delta' <www.amnesty.nl/content/uploads/2016/11/1311_rap_shell_.pdf?x45368> accessed 21 November 2018.

While this is questionable, interviews with key informants and community members revealed that there were indeed factions in the community and that those who signed the form that determined sabotage as the cause were actually indigenous contractors to the oil company and may have been protecting their interests by siding with the company against the community.

The combination of both incidents highlights the problems of transparency in the cleanup process and the issue of ensuring there is adequate community representation in the determination of a spill. Another informant emphasised this fact when he noted that due to incessant litigation and petitions from communities around determination and cleanup, operators try to simulate some semblance of an open and participatory JIV process, but that there is a need for reform and a framework that will ensure an open participatory process.

Similarly, as presented in Appendix 3, while comparator countries maintain publicly available databases that provide information on enforcement actions and compliance history, i.e. cases of environmental violations that have been reviewed by the regulator, the DPR does not have such a publicly available database.[29] While NOSDRA publishes a record of oil spill incidents, it does not publish the results of and reports of JIVs, or enforcement and compliance action taken.[30] Some of the participant oil companies, such as Shell Petroleum Development Company, indicated that they have developed internal processes that allow them to self-publish results of JIVs on their websites. The self-initiated process has, however, been criticised as non-transparent and open to abuse.[31]

Furthermore, the lack of transparency in the conducting of the JIV itself, in which oil companies themselves are the primary investigators, has been highlighted by local and international stakeholders.[32] As the 2011 UNEP report notes: 'Government agencies are at the mercy of oil companies when it comes to conducting site inspections'.[33] In this study, a participant from NOSDRA noted to us: 'we do not have the resources at NOSDRA to initiate and conduct JIVs. We have to depend on international oil companies and the DPR to take us to oil spill sites and to supply technical data about spills.' Due to this lack of resources, JIVs are frequently carried out days – and in some cases weeks – after an oil spill occurs, which is inconsistent with the requirements of EGASPIN and the NOSDRA Act. According to EGASPIN, cleanup of an oil spill should commence within 24 hours of the occurrence of the spill.[34] Given that a JIV precedes cleanup, it is impossible to comply with the 24-hour deadline when JIVs are scheduled several days after the spill is reported. By allowing the international oil companies (IOCs), which are potentially the liable parties, to substantially take the lead and control pollution investigation processes, the transparency and outcome of the review process is significantly weakened. There is therefore an urgent need to provide the necessary finance, support, and resources that will allow NOSDRA,[35] the DPR, and other regulatory authorities to independently and effectively perform their oversight functions to enforce oil regulations and to address pollution cases.

Another key weakness in EGASPIN, as well as in the overall framework for oil sector regulation in Nigeria, is that it does not provide any procedure for auditing the activities of the DPR or NOSDRA,

[29] United States Environmental Protection Agency, 'Enforcement and Compliance History Online', <https://echo.epa.gov> accessed 15 October 2018.

[30] See Nigerian Oil Spill Monitor, <https://oilspillmonitor.ng> Nonetheless, the ongoing upgrading of the oil spill monitor platform makes provision for the uploading and updating of reports of JIVs by NOSDRA.

[31] See Amnesty International (2013) 'Bad Information: Oil Spill Investigations in the Niger Delta' <www.amnesty.nl/content/uploads/2016/11/1311_rap_shell_.pdf?x45368> > accessed 15 October 2018.

[32] Ibid., p. 18.

[33] Ibid., p. 14.

[34] See EGASPIN, paras 5.1.1.1 and 7.1.1.1, stating that 'a Joint Spillage Investigation (JSI) team, comprising of the Licencee/ Operator/Spiller, Community and DPR shall be constituted, within 24 hours, of spillage notification to investigate the spillage.'

[35] If signed into law and effectively implemented, the NOSDRA Amendment Bill 2018 is poised to address this challenge. Under the proposed law, NOSDRA is entitled to 2.5% of the Ecological Fund annually. This is intended to improve NOSDRA's logistics limitations in responding to spills and the conducting of JIVs.

as well as other regulators. This leaves the key question of who audits the regulator itself? Given the level of discretion that EGASPIN grants to the Director of the DPR to approve certain discharges, it is important, for the purposes of transparency, to lay down procedures for auditing how the DPR discharges it oversight functions. For example, in Alberta and Norway there is a robust system for auditing the activities of the regulator. The Auditor General of Alberta has regulatory powers to assess and audit the AER to determine whether it has performed its functions in a transparent and effective manner. Similarly, at the federal level, the Commissioner of the Environment and Sustainable Development, housed within the Office of the Auditor General of Canada, has powers to conduct independent audit and review of government agencies and departments to determine if environmental principles are reflected.[36] A transparent and accountable process of environmental regulation must provide a clear and independent process for auditing the regulator. This will enhance overall regulatory efficiency and reduce the propensity for conflicts of interest.

[36] See Commissioner of the Environment and Sustainable Development, www.oagbvg.gc.ca/internet/English/cesd_fs_e_921.html. This independent auditor framework has also been established in Hungary (the Ombudsman for Future Generations, Hungary, is appointed to promote and protect the rights of future generations in environmental planning and policy-making and to audit activities of all government agencies to ensure transparency and compliance with environmental standards); in New Zealand (where the independent Parliamentary Commissioner for the Environment is appointed to review national agencies and regulators and to independently investigate all matters where the environment has been adversely affected); and in Wales (the Welsh Commissioner for Sustainable Futures) and Germany (the Parliamentary Advisory Council on Sustainable Development). See also the proposed Environmental Enforcement and Audit Office in the United Kingdom: 'Committee calls for new Environmental Enforcement and Audit Office < www.parliament.uk/business/committees/committees-a-z/commons-select/environmental-audit-committee/news-parliament-2017/governments-25-year-plan-report-publication-17-19/> accessed 21 November 2018.

3 Recommendations

There are a number of limitations that need to be addressed to ensure that EGASPIN is more transparent and accountable, and that its intervention values are aligned with international best practices. In this context, we suggest the following recommendations to enhance the stringency, transparency, and enforcement of EGASPIN:

3.1 Comprehensive environmental regulation for the oil sector must be in place

While EGASPIN, in principle, seeks to adopt best practice, using methods and guidelines that are consistent with international standards, it is not an act of the National Assembly and therefore takes its legitimacy from the Ministry of Petroleum Resources. To achieve independent supervision of environmental risks in the oil sector, a comprehensive piece of environmental legislation for the oil sector must be put in place. EGASPIN can be updated and expanded to provide specific and clear policy guidance around oil pollution detection, responses, and remediation to manage the cumulative impacts. Some of the provisions of EGASPIN may be merged with the NOSDRA Act to achieve a more consistent and coherent environmental regulation for the oil sector. Similarly, such a law should address gaps in EGASPIN's intervention values.

3.2 Establish a SER

Closely associated with the issue of reforming EGASPIN is the need to establish an independent environmental regulator for the oil sector that will be at arm's length from the DPR and tasked with harmonising and administering all laws applicable to the oil sector ranging from those relating to EIA, access to land, water use, requests to drill a well, and requests to build a pipeline, to those governing land and surface reclamation. A SER could help address some of the current overlaps between the functions of the DPR, NOSDRA, and other regulatory agencies in the Nigerian oil industry.

3.3 Stakeholder engagement strategies and guidelines need to be in place

Clearly outlined processes must be put in place to encourage inclusive decision-making processes and effective and meaningful participation of all stakeholders, particularly women, youth, indigenous peoples, and other marginalised or vulnerable actors. Clear mechanisms must be put in place for stakeholder intervention, application comment periods, project standing, and statements of concern, and broader, more inclusive stakeholder engagement strategies and plans need to be in place in line with FPIC tenets. The majority of interviewed participants expressed concern about not being consulted by oil companies during the approval, operations, and clean-up phases. By adopting clear and comprehensive stakeholder engagement guidelines, oil companies can better understand what is required from a responsible operator at each phase of the oil production life-cycle. Equally important is the need to strengthen capacity building of the more vulnerable partners in local communities, by providing them appropriate financial and technical assistance.

3.4 Establish regulator audits

Several studies have found regulatory oversight in the Nigerian oil sector to be very weak and non-transparent. To ensure more accountability of the regulators, a system must be put in place to periodically review and audit the activities of the DPR, NOSDRA, and other oil sector regulators, based on the criteria developed in this report: stringency, compliance, and transparency. One approach is to appoint an independent Ombudsperson for Environment and Sustainable Development in Nigeria that will be directly responsible for initiating independent audits and

assessments of oil sector regulators. Such an auditing unit could be housed in the office of the Auditor General of the Federation and vested with legislative powers to conduct performance audits, independently assess the compliance of federal government departments with their sustainable development objectives, and respond to petitions from the public. To ensure independence, it is essential that such an auditing unit be directly funded by budgetary allocation.

3.5 Establish channels for proactive information disclosure

An important way to deter pollution and to enforce EGASPIN is to provide publicly available information on steps taken by the DPR, as well as NOSDRA, to punish and deter violations. The DPR and NOSDRA must, as a matter of priority, establish a searchable online enforcement and compliance database that can provide relevant information on enforcement actions with respect to oil spillage investigations and penalties. Addressing this concern should begin with an investigation of system modernisation opportunities that exist to improve data collection and information sharing in the most effective and efficient way.

4 Conclusion

Regulatory oversight of the Nigerian oil industry is extremely weak and does not currently align with international best practices on oil sector transparency and accountability. Although the 2018 EGASPIN, in principle, seeks to adopt best practice, using methods and guidelines that are consistent with international standards, transparency and accountability in interpretation and implementation remain key concerns. There is an urgent need to reform EGASPIN to make its prescribed environmental standards more rigorous and comprehensive, in line with international best practices. A reform of supervision arrangements to place the environmental enforcement functions in an independent body that is at arm's length from the DPR is also long overdue. If effectively designed and implemented, a SER offers an innovative way for Nigeria to achieve the dual purpose of increasing regulatory effectiveness while reducing the current regulatory overlap and burden.

Further and wider studies and stakeholder engagement must, however, be undertaken to improve understanding of the SER approach. Are any of the existing agencies, such as NOSDRA or NESREA, capable of morphing into a SER or will there be a need for a new agency? What are the resources, tools, and legal mechanisms required to ensure the efficiency of a SER in Nigeria? Also, what are the process changes required for IOCs and stakeholders in terms of current and future development processes? Obtaining answers to these questions will require greater and more holistic study, in order to understand how a SER would operate in Nigeria's context.

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Appendix 1 – Comparison of stringency regulations

	STRINGENCY Questions – Jurisdiction	Canada (Alberta)	Norway	Oman	UK	US (North Dakota)	Nigeria (EGASPIN)
	Project stage: Approvals						
1	Are there requirements to conduct Environmental Impact Assessments (EIAs) for specified development projects?	Yes	Yes	Yes	Yes	Yes	Yes
2	What is the average length of time for large-scale hydrocarbon projects (greater than 30,000 bpd) to receive approval (within the last five years)?	6–18 months	6–18 months	Less than 6 months	6–18 months	More than 18 months	6–18 months
3	What is the average cost to prepare an application and gain approval (last five years)?	$2 million	$400,000–$2 million	$200,000–$400,000	$400,000–$2 million	$400,000-$2 million	$75,000–$200,000
4	Are there opportunities for stakeholder to review and provide input on regulatory applications in line with FPIC standards?	Yes	Yes	No	Yes	Yes	No
5	How many staff are utilised by each regulator for the environmental review of major project applications?	10 to 50	Less than 10	Less than 10	10 to 50	Less than 10	Not available
	Project stage: Operations						
6	Are renewals on environmental regulatory permits required?	Yes	Yes	Yes	No	Yes	Yes
7	For what and how often are renewals required?	5–10 years	Triggered by change in operations	1-3 years	Triggered by change in operations	1–3 years	1–3 years
8	Are discharge limitations prescribed?	Yes	Yes	Yes	Yes	Yes	Yes
9	Are prohibitions absolute or conditional?	Absolute	Absolute	Absolute	Absolute	Absolute	Conditional
10	Are there self-reporting requirements on the IOC for waste release?	Yes	Yes	Yes	Yes	Yes	Yes
11	Do the target and intervention values comply with international standards prescribed by the World Health Organization?	Yes	Yes	Yes	Yes	Yes	No
12	How many PAHs are included in the standards for groundwater values?	16	16	16	16	16	10
13	Is environmental monitoring and reporting required during operations?	Yes	Yes	Yes	Yes	Yes	Yes
14	Is an Operations Environmental Management Plan required to be submitted and approved by the regulatory authority?	Yes	Yes	Yes	Yes	Yes	Yes
15	Are cumulative effects monitored? e.g. air quality (NOx, SOx).	Yes	Yes	Yes	Yes	No	Yes
16	Are there requirements for continuous monitoring?	Yes	Yes	Yes	Yes	Yes	Yes

17	Are environmental monitoring criteria and thresholds defined through regulations?	Yes	Yes	Yes	Yes	Yes	Yes
18	If environmental monitoring criteria and thresholds are defined, please describe.	Project specific (risk-based)	Prescriptive	Not defined	Prescriptive	Project specific (risk-based)	Not defined
	Project stage: Closure						
19	Are closure plans required?	Yes	Yes	Yes	Yes	Yes	Yes
20	If yes, when are they required?	Operational, planning phase	Operational, planning phase	At time of closure	Operational, planning phase	Operational, planning phase	Operational, planning phase
21	Is there regulatory mandated remediation and reclamation at facility end of life?	Yes	Yes	No	Yes	Yes	Yes
22	Are there defined (prescribed thresholds) remediation and reclamation standards or are risk-based remediation and reclamation methods used?	Yes	Yes	No	Yes	Yes	No
23	Are reclamation certificates issued by the government?	Yes	Yes	No	Yes	Yes	No
24	Are there bond or financial security requirements against end-of-life facility liability?	Yes	Yes	No	No	Yes	No
25	Is there a government-run programme that can be implemented to remediate and reclaim orphaned facilities and oil wells in cases where a company defaults?	Yes	Yes	No	No	Yes	No

Appendix 2 – Comparison of compliance regulations

	COMPLIANCE Questions - Jurisdictions	Canada (Alberta)	Norway	Oman	UK	US (North Dakota)	Nigeria (EGASPIN)
	Project stage: Approvals						
1	Is a Construction Environmental Management Plan required to be submitted and approved by the regulatory authority?	Yes	Yes	Yes	Yes	Yes	Yes
2	If conditions are stipulated or put in place for a regulatory approval (e.g. licence, permit, etc.) are there mechanisms to check or ensure compliance with the approval?	Yes	Yes	Yes	Yes	Yes	No
3	If so, what are the mechanisms?	Audits, inspections; monitoring and reporting	Inspections and audits	Audits, inspections; monitoring and reporting	Audits, inspections; monitoring and reporting	Audits, inspections; monitoring and reporting	Audits, inspections; monitoring and reporting
4	Are there standard terms of reference for the environmental assessment process?	Yes	No	Yes	No	No	Yes
5	If so, is there a set threshold for a project to meet the terms of reference to gain approval?	Yes	No	No	No	No	Yes
6	What is the licensing entity for oil and gas operations?	Alberta Energy Regulator (AER)	Norwegian Petroleum Directorate (NPD)	Ministry of Oil and Gas	Oil and Gas Authority (OGA)	Various states agencies	DPR
7A	Is there a separate environmental regulator that is at arm's length from the licensing authority?	Yes	Yes	Yes	Yes	Yes	No
7B	If yes, name the environmental regulator.	AER	Norwegian Environmental Agency (NEA)	Ministry of Environment and Climate Affairs	Offshore Petroleum Regulator for Environment and Decommissioning (OPRED)	Environmental Protection Agency	DPR
8	Are there other agencies with regulatory functions for environmental compliance in onshore and offshore oil operations?	No	No	No	No	No	Yes (NOSDRA)
	Project stage: Operations						
6	Are there consequences for regulatory non-compliance?	Yes	Yes	Yes	Yes	Yes	Yes
7	Does the regulatory authority have the mandate to enforce environmental regulations?	Yes	Yes	Yes	Yes	Yes	Yes
8	List examples of regulatory mechanisms or tools for enforcement.	Inspections/audits, shut ins, fines, or imprisonments/legal actions	Inspections/audits, shut ins, fines, or imprisonments/legal actions	Inspections/audits, shut ins, fines, or imprisonments/legal actions	Inspections/audits, shut ins, fines, or imprisonments/legal actions	Inspections/audits, shut ins, fines, or imprisonments/legal actions	Inspections/audits, shut ins, fines or imprisonments/legal actions
9	Does the government publish a list of regulatory infraction/non-compliance events/fines and penalties?	Yes	Yes	No	Yes	Yes	No

10	Is there whistleblower legislation to protect whistleblowers from losing their jobs or other consequences?	Yes	Yes	No	Yes	Yes	No
11	Can available testing laboratories achieve detection limits for legislated thresholds?	Yes	Yes	Yes	Yes	Yes	No
	Project stage: Closure						
12	Is there a regulatory mechanism that exists to ensure a company properly remediates and reclaims a decommissioned facility?	Yes	Yes	No	Yes	Yes	Yes
13	Is term monitoring required past the end of life of the facility?	Yes	Yes	Yes	Yes	Yes	Yes
14	If yes, how long is monitoring required past the end of life of a facility?	Until site has been reclaimed satisfactorily	Case specific	Case specific	Case specific	Until site has been reclaimed satisfactorily	5 years

Appendix 3 – Comparison of transparency regulations

TRANSPARENCY Questions – Jurisdiction		Canada (Alberta)	Norway	Oman	UK	US (North Dakota)	Nigeria (EGASPIN)
	Project stage: Approvals						
1	Is there freedom of information legislation?	Yes	Yes	No	Yes	Yes	Yes
2	Are regulatory approval processes and requirements readily available to the public?	Yes	Yes	No	Yes	Yes	No
3	Is the public able to provide input into draft legislation?	Yes	Yes	No	Yes	Yes	No
4	Is there legislation in place that requires a project approval to demonstrate that the project is in the 'best interest' of the public?	Yes	Yes	No	Yes	Yes	No
5	Is a basis for decision (project approval/rejection) communicated to the public? (i.e. decision reporting).	Yes	Yes	No	Yes	Yes	No
6	Are stakeholders able to provide input and/or intervene in project applications in line with FPIC requirements and standards?	Yes	Yes	No	Yes	Yes	No (when possible)
7	Describe the method(s) that intervenors can provide input.	Written and verbal	Written and verbal	None	Written	Written and verbal	None
8	Is there any type of duty to consult in legislation? e.g. duty to consult 'affected parties', or indigenous people(s)?	Yes	Yes	No	Yes	Yes	No (when possible)
9	Do the due process requirements include processes for public hearings and/or information requests?	Yes	Yes	No	Yes	Yes	No
10	Is there a public appeal process for regulatory decisions? (i.e. environmental appeal board).	Yes	Yes	Yes	Yes	Yes	No
11	Is there a project proponent appeal process for regulatory decisions?	Yes	Yes	Yes	Yes	Yes	No
	Project stage: Operations						
12	Are monitoring reports/data available to the general public?	Yes	Yes	No	Yes	Yes	No
13	If so, please specify the media (air, water, soil, emissions) and level of detail.	Facility specific	Corporation specific	None	Industry-wide	Facility specific	N/A
14	Does the government track and report non-compliance events to the public?	Yes	Yes	Yes	Yes	Yes	No
15	Is there a requirement for reporting incidents?	Yes	Yes	Yes	Yes	Yes	Yes
16A	Is there a formal regulatory audit process in place for investigating incidents and monitoring compliance?	Yes	Yes	Yes	Yes	Yes	Yes

16B	Who initiates and coordinates spill visits?	AER	Ministry of Climate and Environment	Ministry of Regional Municipalities, Environment and Water Resources	OPRED	Department of Health and/or Industrial Commission	Operators and oil companies
17	If there is a regulatory audit process, at what frequency is it implemented, or is it impromptu/*ad hoc*?	Regular and *ad hoc*	Regular and *ad hoc*	None	Regular/ scheduled	Impromptu/ *ad hoc*	Regular/ scheduled
18	Is there an independent process to audit the regulator itself (e.g. auditor general)?	Yes	Yes	No	Yes	Yes	No
	Project stage: Closure						
19	Are facility closure plans available to the public?	Yes	Yes	No	Yes	Yes	No
20	Does the government report on facility reclamation/reclamation certificate?	Yes	Yes	No	Yes	Yes	No
21	If an orphan well facility programme exists, does it publicly report activities, progress, and financials?	Yes	No	No	Yes	Yes	No
22	Are companies required to document and report remediation and reclamation of facilities to regulators?	Yes	Yes	Yes	Yes	Yes	Yes
23	Is the remediation and reclamation of facilities reported by regulators to stakeholders?	Yes	Yes	No	Yes	Yes	No
24	Are there documented rates on the frequency of defaults where companies do not meet their end-of-facility-life obligations?	Yes	No	No	No	No	No

Appendix 4 – List of state institutions

Canada (Alberta)

Alberta Energy Regulator (AER)

Nigeria

Department of Petroleum Resources (DPR)

National Oil Spill Detection and Response Agency (NOSDRA)

National Environmental Standards Regulatory and Enforcement Agency (NESREA)

Norway

Environment Agency

Norwegian Petroleum Directorate

Petroleum Safety Authority

Oman

Ministry of Environment and Climate Affairs

Ministry of Oil and Gas

Ministry of Regional Municipalities, Environment and Water Resources

United Kingdom (offshore)

Oil and Gas Authority (OGA)

Offshore Petroleum Regulator for Environment and Decommissioning (OPRED)

United States (North Dakota)

Oil and Gas Division, North Dakota Industrial Commission (NDIC)

Environmental Health Section, North Dakota Department of Health

Appendix 5 – List of laws and regulations

Canada (Alberta)

Coal Conservation Act 2013

Energy Resources Conservation Act 2009

Environmental Protection and Enhancement Act 2017

Gas Resources Preservation Act 2013

Mines and Minerals Act 2016

Oil and Gas Conservation Act 2017

Oil Sands Conservation Act 2013

Pipeline Act 2014

Public Lands Act 2014

Turney Valley Unit Operations Act 2013

Water Act 2014

Nigeria

Environmental Guidelines and Standards for the Petroleum Industry (EGASPIN) (Revised Edition) 2002

Environmental Impact Assessment Act 1992

National Environmental Standards and Regulations Enforcement Agency (Establishment) Act 2007

National Oil Spill Detection and Response Agency (Establishment) Act 2006

Oil Pipelines Act 1956

Oil and Gas Pipelines Regulations

Petroleum Act 1969

Norway

Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR)

Environmental Information Act 2009

Greenhouse Gas Emission Trading Act

Petroleum Act 1996

Pollution Control Act

Product Control Act

Oman

Oil and Gas Law 2011

Law on Conservation of the Environment and Prevention of Pollution 2011

Regulations for Management of Hazardous Waste

Regulations for Wastewater Re-use and Discharge

Regulations for Management of Solid Non-Hazardous Waste

Exploration and Production Sharing Agreement

United Kingdom

Energy Act 2016

Marine and Coastal Access Act 2009

Merchant Shipping Act 2006

Offshore Chemicals Regulations 2002

Offshore Petroleum Actives (Oil and Pollution Prevention Control) Regulations 2005

Offshore Petroleum Activities Regulations

Offshore Production and Pipelines Regulations

United States (North Dakota)

National Environmental Policy Act

North Dakota Century Code, Chapters 32, 38 and 43

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Annex A Brief Profile of Experts

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Professor Olawuyi was formerly an international energy lawyer at Norton Rose Fulbright Canada LLP, Calgary, where he served on the firm's global committee on extractive resource investments in Africa. He was also formerly deputy director and head of environmental law at the Centre for International Governance Innovation, Waterloo, Canada. He is currently vice-chair of the International Law Association, London.

Dr Zibima Tubodenyefa is a university lecturer and consultant. He is currently the Team/Outcome Lead for the Environment Component of the Dutch Environment and Governance Framework for the Niger Delta, a project funded by the Government of the Netherlands and implemented by Stakeholder Democracy Network. As a Japanese Government Mombukagakusho fellow, he earned his PhD from Nagoya University, Japan, where he majored in international development with focus on extractives and conflict. Zibima's research expertise is on extractives and conflict, environmental legislation, and the impact of extractives on host community environmental behaviour. His recent consultancies for the UK Department for International Development and Oxford Policy Management include providing technical support in reforming environmental legislation in the oil and gas sector to the House Committee on Environment and Habitat of the Lower Chamber of the Nigerian National Assembly, coordinating techical solutions in improving oil spill tracking and response in the Niger Delta, as well as managing host community expectations for gas-based industrialisation in the Niger Delta, Nigeria.

Note

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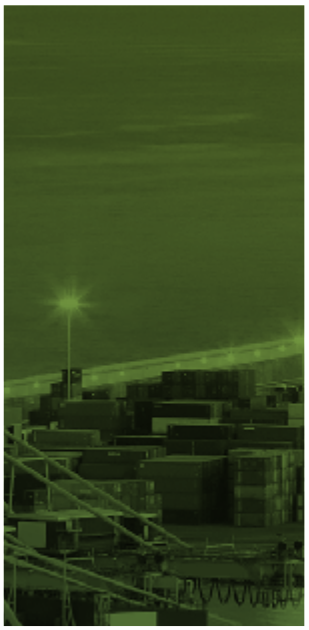

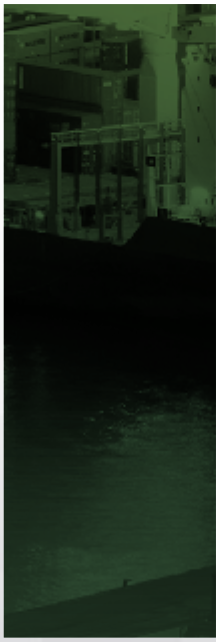

REVIEW OF THE ENVIRONMENTAL GUIDELINES AND STANDARDS FOR THE PETROLEUM INDUSTRY IN NIGERIA (EGASPIN)

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