Alessandra (Alex) Pheiffer Senior Environmental Consultant



Qualifications

BSc	1998	Biological Sciences
BSc (Hons)	1999	Zoology
MSc	2004	Environmental Management

Professional affiliations and registrations

Registered with the South African Council for Natural Scientific Professions as a Professional Natural Scientist (PrSciNat) in Environmental Science (Reg. No. 400183/05)

Registered with the Environmental Assessment Professionals of Namibia (EAPAN) as a Lead Practitioner (Membership No. 121)

Member of the International Association for Impact Assessments (IAIA), South African Affiliate

Summary of Key Areas of Expertise

Management and facilitation of permitting and licensing processes		
Management of stakeholder engagement processes		
Overall Project Management		
Due Diligence, Reviews		

Summary of Experience and Capability

Alex is a Senior Environmental Consultant at SLR Africa with 16 years' experience in the field of Environmental Management.

Alex has managed a wide range of permitting and licensing projects including environmental assessments, water use license applications and waste management license applications, mainly in the exploration, mining and industrial sectors. These included project management and co-ordination; specialist and engineering team management; co-ordination, facilitation and undertaking of stakeholder engagement processes including for contentious projects, and environmental assessment. She has experience in addressing both in-country legislation and Equator Principles and International Finance Corporation (IFC) requirements.

Alex has provided environmental specialist input on a number of pre-feasibility studies linked to the exploration/development/expansion of mining operations. She has also been involved in environmental due diligence processes and environmental reviews for financing institutions (in the mining, industrial and alternative energy sectors).

In her early career years, Alex held a position within Anglo Platinum's Waterval Smelter as Assistant to the Chief Environmental Officer. In 2002, she joined Metago Environmental Engineers (Pty) Ltd (Metago). Metago was acquired by SLR Consulting (UK) in March 2011. During the period March 2015 to October 2016, Alex held the position of Operations Manager: Environmental Management, Planning and Approvals (EMPA) within SLR Africa and was responsible for co-ordinating SLR's environmental management team.

Project Experience

Key aspects of Alex's project experience are summarised below.

Project	Date	Alex's Role
Chrome		
EMPs (including an EIA) for prospecting on the farms Beestekraal 290 JQ, Boschpoort 284JQ, Nooitgedacht 289JQ and Noointgedacht 287JQ near Rustenburg in the North West Province: Bakgatla Ba Kgafela Tribal Authority	2007	Project Manager
EMPs (including EIA) for two prospecting projects on the town and town lands of Rustenburg 272JQ in Rustenburg Magisterial District, North West Province: Xstrata South Africa (Pty) Ltd	2005	Project Manager
EIA/EMP for a chrome mine and concentrator in the Rustenburg / Boshoek region: SA Ferrochrome and Mining (Pty) Ltd	2003-2004	Project Assistant
Coal		
EIA/EMP for a greenfields coal mine in northern Kwa-Zulu Natal: Commissiekraal Coal (Pty) Ltd	Current	Project Manager
Copper		
EIA-EMP amendment for the Kinsenda operations in the DRC	2014	Project Reviewer
EIA for a greenfields copper oxide project (Omitiomire project) (Namibia): Craton Mining and Exploration (Pty) Ltd	2013	Project Reviewer
Ferrochrome		
EIA/EMP amendment for the exclusion of smelter activities at Bokfontein Chrome Mine: Hernic Ferrochrome	2013	Project Manager
EIA/EMP amendment for a concentrator and smelter complex at Bokfontein Chrome Mine: Hernic Ferrochrome	2012	Project Manager
EIA for Project Lion, a new smelter complex near Steelpoort: Xstrata South Africa (Pty) Ltd	2003-2004	Project Assistant
EIA/EMP for Transvaal Ferrochrome Project (a ferrochrome smelter complex in the Rustenburg/Brits region):	2002-2003	Project Assistant
EIA/EMP amendment for a pelletizing plant at Xstrata Wonderkop: Xstrata South Africa (Pty) Ltd	2002-2003	Project Manager
Gold		
EIA for a filtration plant at Navachab Gold Mine (Namibia): AngloGold Ashanti Namibia (Pty) Ltd	2012	Project Manager
Basic Assessment for Diesel storage facilities at its South Deep Mine Operations: God Fields (South Africa) (Pty) Ltd	2011	Project Reviewer

Project	Date	Alex's Role
Participation in an integrated environmental management review – technical workshop for new projects at Gold Fields: Gold Fields (South Africa) (Pty) Ltd	2009	Part of a peer review delegation for an ongoing EIA
Consolidating South Deep Min's various EMPR documents into one document and in turn bringing the mine's EMPR in line with the requirements of the Mineral and Petroleum Resources Development Act and supporting regulations: Placer Dome Westonaria Joint Venture – South Deep Mine	2005-2007	Project Manager
EIA and EMP amendment for a new tailings dam development: Placer Dome Westonaria Joint Venture – South Deep Mine	2005-2007	Project Manager
Iron		
EIA and EMP for the Jenkins and Driehoekspan greenfields mining operations in the Northern Cape: Coza Iron Ore	2016	Project Reviewer
EIA/EMP for greenfield iron ore mine development near Lephalale (Ellisras) (Moonlight iron ore project) in the Limpopo Province: Turquoise Moon Trading (Pty) Ltd	2012	Project Manager
Amendment to existing prospecting EMP to cater for changes in prospecting operations: Nelesco 684 (Pty) Ltd	2010	Project Manager and Reviewer
Amendments to existing prospecting EMPs (Cascade 442IT and Delft 22HU) to cater for changes in prospecting operations: Mkhombi Mining (Pty) Ltd	2010	Project Manager and Reviewer
Management of the consultation process for a prospecting EMP on the farms Sterkfontein 419IT and Wolvernkop 427IT, near Piet Retief in Mpumalanga Province: Mkhombi Mining (Pty) Ltd	2009	Project Manager and Reviewer
EMP (including EIA) for prospecting on the farms Moabsvelden 248IR and Rietkuil 249IR, near Delmas in Mpumalanga Province: Spirapix Mining (Pty) Ltd	2009	Project Manager
Manganese		
EMP amendment and rectification processes for Tshipi é Ntle Manganese Mining operations in the Northern Cape	Current	Project Reviewer
EMP amendment process for UMK Manganese Mine in the Northern Cape	Current	Project Reviewer
EIA and EMP for a greenfields mining right application in the Northern Cape: Ntsimbintle Mining (Pty) Ltd	Current	Project Reviewer
EMP performance assessment and financial provision re- assessment for prospecting right in the Northern Cape: Ntsimbintle Mining (Pty) Ltd	2008 and 2016	Project Reviewer
Platinum		
Various EMP performance assessments and financial provision re-assessments for prospecting rights held by Impala in the North West, Mpumalanga and Limpopo Province: Impala Platinum Limited (Impala)	Ongoing	Project Manager and Reviewer

Project	Date	Alex's Role
Various EMP performance assessments and financial provision re-assessments for prospecting rights held by Afplats in the North West Province: Afplats (Pty) Ltd	Ongoing	Project Manager and Reviewer
Various amendments to existing prospecting EMPs to cater for the changes in prospecting operations: Impala Platinum Limited (Impala)	Ongoing	Project Manager
Various EMP performance assessments and financial provision re-assessments for prospecting rights held by Inkosi and Imbasa in the North West Province	Ongoing	Project Manager and Reviewer
EIA and EMP amendment including WML for changes to surface infrastructure and operations at Bakubung Platinum Mine, North West Province	2015 - 2016	Project Reviewer
EIA and EMP amendment for changes to surface infrastructure and operations at Tharisa Mine, North West Province	2012 - 2015	Project Reviewer
EMP Compliance Audit for Leeuwkop Mine	2014	Project Reviewer
EIA/EMP amendment for changes to surface infrastructure at Marula Platinum Mine: Marula Platinum (Pty) Ltd	2013	Project Manager and Reviewer
EIA/EMP for the extension of underground mining activities at Everest Platinum Mine (Fairway project): Aquarius Platinum (South Africa) (Pty) Ltd	2013	Project Reviewer
EIA/EMP for the extension of mining activities at Everest Platinum Mine (Hoogland project): Aquarius Platinum (South Africa) (Pty) Ltd	2013	Project Manager
Supply and co-ordination of interim on-site environmental manager to assist with general management of environmental aspects at Everest Platinum Mine: Aquarius Platinum (SA) (Pty) Ltd	2011	Project Co-ordinator
Compilation of environmental documents (including a public consultation process) in support of a closure application for the Turffontein 263JQ and Kookfontein 265JQ prospecting right and Reinkoyalskraal 278JQ and Elandsheuwel prospecting right: Impala Platinum Limited (Impala	2010	Project Reviewer
2010 Annual Re-Assessments of Everest Platinum Mine's closure cost estimate: Aquarius Platinum (SA) (Pty) Ltd	2010	Project Reviewer & Auditing
EMP (including EIA) for prospecting on the farm Rooikraal 118JS in the Limpopo Province: Braggite Resource (Pty) Ltd	2010	Project Reviewer
2009 Annual Re-Assessments of Everest Platinum Mine's closure cost estimate: Aquarius Platinum (SA) (Pty) Ltd	2009	Project Manager
EIA/EMP amendment for the north and south boxcuts at Everest Platinum Mine: Aquarius Platinum (SA) (Pty) Ltd	2009	Project Manager & closure
EIA/EMP amendment for the production expansion of Eland Platinum Mine: Xstrata South Africa (Pty) Ltd	2009	Project Reviewer
Assistance with the consultation with landowners to input into closure of a prospecting right: Impala Platinum Limited (Impala)	2008-2009	Project Manager

Project	Date	Alex's Role
Compilation of environmental posters linked to the seismic EMP for the use in environmental awareness training: Impala Platinum Limited (Impala)	2008	Project Manager
EMP performance assessment of Marula Platinum Mine's EMP report: Marula Platinum (Pty) Ltd	2008	Project Manager & Reviewer
EIA/EMP for a new platinum mine and concentrator Plant (Mphahlele Project) in the Limpopo Province: Tameng Mining and Exploration (Pty) Ltd	2007-2008	Project Manager
EIA/EMP amendment for additional infrastructure at Everest Platinum Mine: Aquarius Platinum (SA) (Pty) Ltd	2006-2009	Project Manager
EIA/EMP for seismic survey activities near Impala's Rustenburg operations: Impala Platinum Limited (Impala)	2006-2008	Project Manager
EIA/EMP amendment for a new shaft and associated facilities and Marula Platinum Mine. This project also included the consolidation and updating of the mine's EMP to cater for the changes in mining legislation: Marula Platinum (Pty) Ltd	2006-2008	Project Manager
EMP (including an EIA) for prospecting on the farms Turffontein 263JQ, near Impala's Rustenburg Operations: Impala Platinum Limited (Impala)	2005	Project Manager
EMP (including an EIA) for prospecting on the farm Reinkoyalskraal 278JQ, near Impala's Rustenburg Operations: Impala Platinum Limited (Impala)	2005	Project Manager
EMP (including and EIA) for prospecting on the farms Klipgatkop 115JQ, near Impala's Rustenburg Operations: Impala Platinum Limited (Impala)	2005	Project Manger
EMP (including and EIA) for prospecting on the farms, Doornspruit 84JQ and Roodekraalspruit 113JQ near Impala's Rustenburg Operations: Impala Platinum Limited (Impala)	2005	Project Manager
EIA/EMP for a mining right application (The Fingers Project) at Marikana Platinum Mine: Aquarius Platinum (SA) (Pty) Ltd	2005	Project Manager
Assisted in the facilitation of the public involvement process for the Shaft 20 EMP amendment: Impala Platinum Limited (Impala)	2004	Project Assistant
EMP amendment for the Maandagshoek Winze Project (reestablishment of an underground shaft): Modikwa Platinum Mine	2003-2004	Project Manager
EIA/EMP amendment for the Opencast Mining Project at the Rustenburg operations: Impala Platinum Limited (Impala)	2002-2005	Project Manager
EMP amendment for The Hills Project (establishment of additional infrastructure for mining purposes): Modikwa Platinum Mine	2002-2003	Project Manager
EIA and EMP for a greenfields mine – Everest South Platinum Mine: Aquarius Platinum (SA) (Pty) Ltd	2002-2003	Project Assistant
Drilling and bulk sampling EMPs for the Everest South Project: Aquarius Platinum (SA) (Pty) Ltd	2002	Platinum

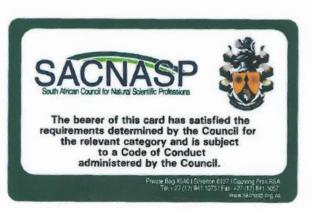
Project	Date	Alex's Role
Revised bulk sampling EMP for the Everest South Project: Aquarius Platinum (SA) (Pty) Ltd	2002	Project Assistant
EMP amendments for re-positioning of infrastructure for Marikana Platinum Mine: Aquarius Platinum (SA	2001	Project Manager
Residential		
Provision of environmental management support to Kumba Iron Ore for the relocation of Dingleton town	2016	Project Manager
Basic Environmental process for the Pilanesburg Platinum Mine Housing Development, in the North West Province	2015	Project Reviewer
EIA for a village and cemetery for non-landowners to be relocated from the site of Marikana Platinum Mine: Aquarius Platinum (SA) (Pty) Ltd	2001-2002	Project Assistant
Silica		
EIA/EMP for mining right application at Rietvly Silica Mine: Xstrata South Africa (Pty) Ltd	2005-2006	Project Manager
Uranium		
ESIA for a greenfields Uranium and Coal Mine in Botswana (Letlhakane Project): A-Cap Resources Limited	Current	Project Manager
Alternative energy		
EIA/EMP amendment for the use of alternative fuels at its Lichtenburg Cement Plant: Lafarge Industries SA (Pty) Ltd	2012	Project Manager
EIA for cogeneration power plants at Xstrata's operations in the North West and Mpumalanga Provinces: Power Tech IST/ Xstrata South Africa (Pty) Ltd	2008 – on hold	Project Manager
Bioremediation		
EIA for a waste management license for the bioremediation operation at TransHex Baken Diamond mine in the Northern Cape	2013 - 2015	Project Manager
Other: Expert Consultant, due diligence, reviews, risk assessment		
Environmental and Social Due Diligence Review of two wind farm assets located in South Africa	2016	Environmental specialist
Environmental management services in fulfilment of the environmental legal obligations for the Dingleton Resettlement Project, near Kathu in the Northern Cape	2016	Environmental specialist
Environmental input into various pre-feasibility studies linked to the exploration/development/expansion of mining operations.	Ongoing	Environmental specialist
Legal compliance review of Everest Platinum Mine (Mpumalanga) in support of re-commencing operations	2015	Environmental specialist

Project	Date	Alex's Role
Update to Tharisa Mine's Competent Persons Report	2015	Environmental specialist
Alfred Knight Lab Due Diligence	2015	Project Manager
Due diligence on compliance, water, waste and air related aspects as part of an investment investigation at Silicon Technology (Pty) Ltd	2012 & 2013	Environmental specialist
A number of due diligences of gold exploration projects in Tanzania: New African Mining Fund	2013	Environmental specialist
Input to a legal environmental register for African Barrick Gold's operations in Tanzania	2012	Environmental specialist
Peer Review of baseline specialist studies for Gold Fields Damang Gold Mine	2012	Environmental specialist
Afplats Shaft Risk Assessment Update for Inkosi - Imbasa	2011	Environmental specialist
Review of Barrick Tulawaka Tailings EIA	2011	Environmental specialist
Environmental input into the ESIA for the expansion of the Morupule Colliery in Botswana: Ecosurv Environmental Consultants	2010	Expert Consultant
Policy drafting		
Assistance with drafting a policy, guideline document and procedure for stakeholder participation during explorations operations for the Implats Group: Impala Platinum Limited (Impala)	2008	Project Manager
Water		
Assistance in compilation of water use license application (WULA) and integrated water and waste management plan (IWWMP) for a new platinum mine and concentrator plant (Mphahlele Project) in the Limpopo Province: Tameng Mining and Exploration (Pty) Ltd	2013	Project Manager
Co-ordination of integrated water and waste at Everest Platinum Mine: Aquarius Platinum (South Africa) (Pty) Ltd	2012	Project Reviewer
Water Supply Study for the Moonlight Iron Ore Project: Turquoise Moon Trading (Pty) Ltd	2011	Project Manager
ESIA for a greenfields wellfield development in Botswana (to supply the Letlhakane Project): A-Cap Resources Limited	2011	Project Manager
Re-registration of waste-related water uses at Everest Platinum Mine: Aquarius Platinum (South Africa) (Pty) Ltd	2010	Project Reviewer
Assistance with addressing water use license related issues: Marula Platinum (Pty) Ltd	2010	Project Reviewer
Water use license application (WULA) for the South Deep Doornpoort tailings dam	2010	Project Manager
Compilation of water use license application (WULA) and integrated water and waste management plan (IWWMP) for South Deep Mine:	2006	Project Manager

Project	Date	Alex's Role
Basic assessment for a water supply project to the Pilanesberg Platinum Mine Operations: Pilanesberg Platinum Mines (Pty) Ltd	Cancelled	Project Reviewer

Publications

Onderstepoort Journal of Veterinary Science, 2005. "Aspects of the ecology of the Asian tapeworm *Bothriocephalus acheilognathi* Yamaguti, 1934 in yellow fish in the Vaal dam, South Africa"



The South African Council for Natural Scientific Professions certifies in terms of section 20(3)(a) of the Natural Scientific Professions Act, 2003 (Act 27 of 2003), that

Mrs A Pheiffer

is registered as a Professional Natural Scientist, Reg. no

in the following field(s) of practice:

400183/05

Environmental Science

Expiry Date: 31 May 2014

SACNASP

Natasha Smyth Environmental Practitioner



Qualifications

BSc Hons	2008	Geography and Environmental Management
BSc	2007	Environmental and Biological Sciences

Key Areas of Expertise

Management and facilitation of permitting and licensing processes		
Management of stakeholder engagement processes		
Overall Project Management		

Summary of Experience and Capability

Natasha is an environmental practitioner with SLR's South Africa office and is responsible for various environmental assessment projects. Natasha has seven years of experience within the Minerals sector, both as a project manager and assistant to various projects in South Africa and Africa.

Natasha has managed and assisted in a wide range of Environmental Impact Assessment projects for major and small scale minerals developments throughout South Africa as well as in Namibia for many of the major operators within the minerals industry.

Since 2009 Natasha has been involved in over 20 projects of which she has project managed 6 major and numerous small scale Environmental Impact Assessments for minerals extraction operations.

Recent Project Experience

Key aspects of Natasha's recent project experience are summarised below.

Project	Date	Natasha's Role
Environmental assessment process and air emissions license process for the establishment of the new Jeanette Mine.	2015- 2016	Project Manager. Compilation of scoping and environmental impact assessment and environmental management programme reports. Compilation of the technical supporting information required for a waste management license application and an air emissions license application. The management of the stakeholder engagement process and specialists.
Water Use License Compliance Audit for the UMK Mine in the Northern Cape.	2015	Project Manager. Assess compliance with the commitments included in the water use licenses issued and make recommendations for rectifying noncompliances and partial compliances identified during the audit.
Environmental assessment process, waste management license process and water use license process for the establishment of a new Mokala Manganese Mine.	2014- 2016	Project Manager. Compilation of scoping and environmental impact assessment and environmental management programme reports. Compilation of the technical supporting information required for a water use license application process and submission of the waste management license application. The management of the stakeholder engagement process and specialists.
Environmental assessment process for the proposed construction of dewatering infrastructure and the development of a decant water pipeline in support of the proposed Evander Shaft 6 Gold.	2014	Project Manager. Compilation of a basic assessment report, the management of the stakeholder engagement process and the management of specialists.
Environmental legal gap analysis	2014	Project Manager. Compilation of an environmental legal gap analysis report to identify any inadequacies in existing approvals and to identify outstanding approvals in terms of the National Environmental Management Act 107 of 1998, the National Environmental Management: Waste Act 59 of 2008, the National Environmental Management: Air Quality Act 39 of 2004, and the National Water Act 36 of 1998 (NWA).
Environmental assessment process to cater for changes to the approved infrastructure layout at the Tshipi Borwa Mine.	2012- 2016	Project Manager. Compilation of scoping and environmental impact assessment and environmental management programme reports. The management of the stakeholder engagement process and specialists.
Environmental support work to meet the requirements of the approved environmental management programme and updating the water use license application.	2009- 2014	Project Manager. Environmental support with regards to assistance to the UMK Mine in implementing its environmental management programme commitments. This also includes quarterly stakeholder engagement processes, EMP performance assessments and quarterly audits. Updating the water use license and supporting documentation including a new integrated water and waste management plan and specialist management

Project	Date	Natasha's Role
Environmental Management Programme amendment for the Nooitgedacht Sand Quarry Mine.	2013	Project Manager. Compilation environmental impact assessment and environmental management programme amendment report.
Proposed Kinsenda project amendment: underground mine and surface infrastructure Client: Meterox, Kinsenda Copper mine.	2013	Project assistant. Assistance with the compilation of the environmental impact assessment and environmental management programme report.
The environmental assessment process to amend the existing environmental impact assessment report and environmental management programme report to cater for infrastructure changes as the Leeuwkop Platinum Mine.	2012- 2013	Project Manager. Compilation of scoping and environmental impact assessment and environmental management programme amendment reports. Submission of the waste management license application. The management of the stakeholder engagement process and specialists.
Environmental and social impact overview of the proposed development of a new training centre at the Impala Platinum Rustenburg Operation.	2013	Project Manager. Compilation of a report to provide an overview of the potential environment and social impacts associated with the development of the proposed training centre.
Environmental Management Programme performance assessment of the Impala Rustenburg Operation.	2012	Project assistant. Assistance with the on-site auditing and report writing required for the environmental management programme performance assessment.
Prospecting environmental management plan renewal and amendment (Afplats (Pty) Ltd).	2012	Project Manager. Compilation of the reports required for the renewal of a prospecting right, the amendment of an approved prospecting environmental management plan including the update of the financial provision and the management of the stakeholder engagement process.
Prospecting environmental management plan renewal and amendment (Impala Platinum Limited on behalf of Inkosi Platinum (Pty) Ltd).	2012	Project Manager. Compilation of the reports required for the renewal of a prospecting right, the amendment of an approved prospecting environmental management plan including the update of the financial provision and the management of the stakeholder engagement process.
Prospecting environmental management plan amendment (Ntsimbintle Mining (Pty) Ltd).	2012	Project Manager. Compilation of the prospecting environmental management plan amendment report and specialist management.
Prospecting environmental management plan amendment (Ntsimbintle Mining (Pty) Ltd).	2012	Project Manager. Compilation of the prospecting environmental management plan amendment report and specialist management.
The consolidation of Impala's fourteen existing approved environmental management programme reports into one consolidated report.	2012	Project Manager. Compilation of a consolidated environmental impact assessment and environmental management programme report include the management of the stakeholder engagement process.
Environmental evaluation of Pit8C at Impala Platinum.	2012	Project Manager. Compilation of a report to evaluate if the approved EIA and EMP amendment report adequately caters for the proposed Pit8C conventional opencast mining area, in terms of the baseline environment, the impact assessment and the mitigation/management measures.

Project	Date	Natasha's Role
Environmental assessment process for the environmental impact assessment and environmental management programme amendment for a proposed new tailings dam, reprocessing of a old tailings dam, rehabilitation of the old tailings and waste disposal site, and open pit expansion. Client: Impala Platinum Limited (Rustenburg Operation).	2011- 2012	Project Manager. Compilation of scoping and environmental impact assessment and environmental management programme reports. Compilation of the technical supporting information required for a water use license application process. The management of the stakeholder engagement process and specialists.
EIA and EMP for the establishment of the Swakop Uranium Mine.	2011	Project assistant. Project assistant with stakeholder engagement and managing specialists.
EIA and EMP for the linear infrastructure associated with the Swakop Uraninum Mine.	2010- 2011	Project assistant. Project assistant with stakeholder engagement and managing specialists.
Environmental assessment process for the establishment of a new iron ore mine.	2010- 2011	Project assistant. Assistance with the stakeholder engagement process.
Environmental assessment process.	2010	Project assistant. Assistance with the compilation of the environmental impact assessment and environmental management programme report.
Environmental assessment process for the establishment of the new Kalkfontein Platinum Mine.	2010	Project assistant. Assistance with the stakeholder engagement process.
Prospecting EMP for platinum group metals.	2010	Project manager. Compilation of a prospecting EMP and stakeholder management process.
Licensing of various water uses at the South Deep Mine.	2009	Project assistant. Assistant with water use licensing application.
EMP amendment for the extension of mining activities.	2009	Project assistant. Assistance with the stakeholder engagement process.
The EMP amendment for the changes to surface infrastructure.	2009	Project assistant. Assistance with the stakeholder engagement process.
EIA and EMP for a new manganese mine.	2009	Project assistant. Assistance with the stakeholder engagement process.

Publications

None