PROSPECTUS

for Strategic Environmental and Social Assessment (SESA) of the Energy Transition Mechanism - Indonesia

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Asian Development Bank

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Abbreviations

ADB	Asian Development Bank
CFPP	Coal-Fired Power Plant
CEF	Clean Energy Facility
CRF	Carbon Reduction Facility
DMC	Developing Member Countries
ESIA	Environmental and Social Impact Assessment
ETM	Energy Transition Mechanism
GHG	Greenhouse Gas
INO SESA	Indonesia Strategic Environmental and Social Assessment
JT	Just Transition
MDB	Multilateral Development Bank
SDG	Sustainable Development Goals
SESA	Strategic Environmental and Social Assessment
SESMP	Strategic Environmental and Social Management Plan
SPS	Safeguard Policy Statement

1. Introduction

This prospectus provides information for stakeholders and interested parties about how Strategic Environmental and Social Assessment (SESA) will be applied to the Asian Development Bank (ADB) Energy Transition Mechanism (ETM) in Indonesia. The prospectus sets out the reasons for the SESA and gives a brief introduction to its role, function and benefits and key proposed activities, process, and outputs.

2. Background to ETM and Associated Activities

Coal-fired power plants (CFPPs) constitute the single largest source of greenhouse gas (GHG) emissions from human activity in the world today. Climate change is already imposing significant costs in Asia and the Pacific; costs that will increase over the coming years. The Asia and Pacific region has the largest number of climate-vulnerable people worldwide. Expected future climate change impact threatens recent development gains and progress toward the Sustainable Development Goals (SDGs). At the same time, the region is the source of more than 50% of annual global greenhouse gas (GHG) emissions. Future climate change will be less severe only if such emissions are reduced. Most developing member countries (DMCs) of the Asian Development Bank (ADB) have ratified the Paris Agreement to hold the increase in the global average temperature to less than 2°C above pre-industrial levels, while aspiring to limit warming to 1.5°C.[1]

The countries of Southeast (SE) Asia have been gradually adopting cleaner forms of energy. Despite the scaling back of project development pipelines, fossil fuel still features prominently in the power development plans of some SE Asian countries. Positive change is already happening, but not yet at the required scale or pace. In Asia especially, CFPPs are relatively young. If not retired from operation, they will last for decades—blocking meaningful pathways to reduce emissions and make space for renewable energy. It is evident if emissions from existing CFPPs are not addressed, Paris Agreement targets will not be met.

To this end, the ADB has launched the ***Energy Transition Mechanism*** (ETM) a scalable, collaborative initiative that will leverage a market-based approach to accelerate the transition from fossil fuels to clean energy, with an initial focus on three developing member countries (DMCs): Indonesia, Philippines, and Viet Nam. Public and private investments—from governments, multilateral banks, private sector investors, philanthropies, and long-term investors—will finance country-specific ETM funds to retire coal power assets on an earlier schedule than if they remained

[1] ADB. 2017. *Climate Change Operational Framework 2017–2030: Enhanced Actions for Low Greenhouse Gas Emissions and Climate-Resilient Development. August 2017.*
https://www.adb.org/documents/climate-change-operational-framework-2017-2030

with their current owners. In partnership with public and private sector stakeholders, ADB will create a regional public-private platform (Southeast Asia Regional ETM Fund or Vehicle) to manage governance, just transition and climate aspects in support of the development, financing, and operation of national funds in select countries in Southeast Asia. The ETM is envisaged to be a public-private finance vehicle comprising two windows:

- The ***carbon reduction facility (CRF)*** to leverage the power of a blended finance approach to decommission coal-fired power plants on an accelerated schedule, allowing time to develop reliable, affordable, and clean replacement power; and;
- The ***clean energy facility (CEF)***, to catalyze and channel investment in new renewable energy generation, energy storage infrastructure, and requisite grid and storage upgrades.

A ***Pre-feasibility Study*** was undertaken of the three countries, from July to September 2021, to assess the options to initiate a secure and cost-effective phase-out of CFPPs from the power generation mix, and a high-level prioritization and assessment of plants to retire in the short to medium term through ETM.

A ***Feasibility Study*** was launched in October 2021, to carry out more detailed analysis of the impacts of early retirement in target countries, establishing ETM implementation procedures and a pool of eligible assets to facilitate the launch of a pilot by the end of 2022.

Just Transition is a core component of ETM. Just Transition is a concept that supports the achievement of long-term national and climate goals, to ensure that no one is left behind, preserves environmental integrity, and protects the rights of vulnerable populations and future generations. ADB has committed, with other multilateral development banks (MDB), to five High-level Principles to guide MDB support on just transition.

- Principle 1: MDB support for a just transition aims to deliver climate objectives while enabling socio-economic outcomes, accelerating progress towards both the Paris Agreement and the SDGs.
- Principle 2: MDB support for a just transition focuses on moving away from GHG emissions-intensive economic activities through financing, policy engagement, technical advice and knowledge sharing, in line with MDB mandates and strategies, and country priorities including NDCs and long-term strategies.
- Principle 3: MDBs will encourage support for a just transition by building on existing MDB policies and activities, mobilizing other sources of public and private finance, and enhancing coordination through strategic plans that aim to deliver long-term, structural economic transformation.
- Principle 4: MDB support for a just transition seeks to mitigate negative socio-economic impacts and increase opportunities associated with the transition to a net zero economy, supporting affected workers and communities, and enhancing access to sustainable, inclusive and resilient livelihoods for all.
- Principle 5: MDB support for a just transition encourages transparent and inclusive planning, implementation and monitoring processes that involve all relevant stakeholders and affected groups, and that further inclusion and gender equality.

The SESA and JT activities are synergistic and will be integrated at the appropriate levels.

3. What is SESA?

Strategic Environmental and Social Assessment, or SESA, is an iterative, participatory process to undertake a systematic evaluation of sustainability of options for CFPP retirement and renewable energy development. It aims to ensure that the potential significant environmental and socio-economic effects/impacts of implementing ETM in Indonesia - through funded activities (programs and individual projects), are identified and assessed together with measures for their mitigation, and that the results and recommendations are communicated to decision-makers. Such impacts may be positive and negative, direct, and indirect, transboundary, cumulative, synergistic, and antagonistic. Mitigation measures and requirements for the management of environmental and social issues are usually set out in a Strategic Environmental and Social Management Plan (SESMP). It provides a framework for monitoring the implementation of policies, plans and programs and for individual mega development activities, providing a valuable tool to help transition to sustainable development.

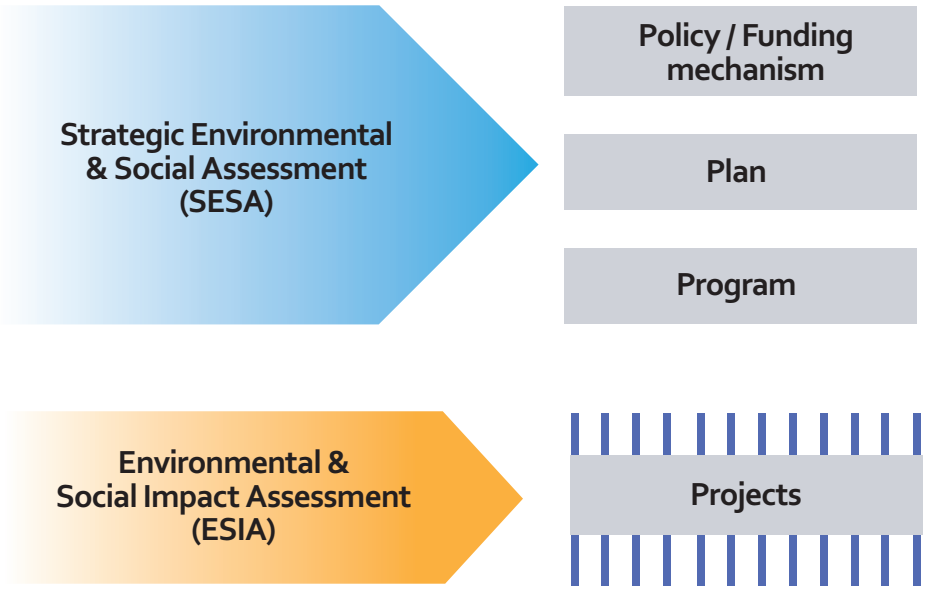


Figure 1: SESA. ESIA and decision-making hierarchy

There is a hierarchy of levels in decision-making for initiatives funded/supported by ADB and other financiers, and in public decision-making. These levels comprise funding mechanisms, policies, plans, programs and then individual projects (Figure 1). At the national level, policies shape the subsequent plans, programs and projects that put those policies into practice. Policies are thus top of the decision-making hierarchy. Policies, plans, and programs (PPPs) are more 'strategic' than projects as they determine the general direction or approach to be followed towards broad goals. SESA is applied to these strategic levels and deals with assessing broadly defined proposals and options. As one moves down the hierarchy from policies to projects, the nature of decision-making changes, as does the nature of environmental and socio-economic assessment needed.

Table 1 indicates how SESA differs from Environmental Impact Assessment (EIA) which is used to assess the impacts of individual projects. But as Table 1 shows, it differs considerably from SESA.

Table 1: SESA and ESIA compared

Item	SESA	ESIA
Level of application	Policies, plans, and programs [In this case, SESA is being applied to the potential roll-out of the package of ETM options at regional and national levels].	Specific projects
Alternatives	Broad range considered (e.g. to mechanism options, policies, plans, programs, scenarios, economic growth trajectories).	Considers limited range
Who does it?	Commissioned by financier and/or government.	Usually prepared and/or funded by project proponents.
Focus	Decision on mechanism, policy, plan and program implications for future lower-level decisions.	Obtaining project permission, and rarely with feedback to policy, plan or program consideration.
Process	Multi-stage and iterative, with feedback loops.	Well-defined and linear, with clear beginning and end (e.g. from feasibility to project approval).
Emphasis	Meeting balanced environmental, social and economic objectives in mechanism, policies, plans and programs. Includes identifying macro-level development outcomes.	Mitigating impacts (environmental and social) of a specific project, but with identification of some project opportunities, off-sets, etc.
Consideration of cumulative impacts	Key component of assessment.	Limited consideration.

SESA is a planning tool that aims to improve strategic decision-making. It complements planning by (a) generating information on environmental and socio-economic issues, (b) providing a platform for stakeholder dialogue on these issues with well-structured debate involving government, the private sector and civil society, and (c) offers a mechanism to take the results of the assessment and debate into account in institutions and governance.

SESA uses a variety of tools in a flexible and adaptive way, rather than a single, fixed, prescriptive approach as is usually the case with ESIA. SESA can complement and strengthen ESIA at the project level by: (a) identifying prior information needs and potential impacts, providing the context and parameters for subsequent ESIAs of projects designed to implement a policy, plan or program; and (b) making ESIA and the project review process more streamlined and efficient by addressing many issues at a more strategic level - including concerns that may relate to project justification so that ESIAs can be more effective by being designed to focus on local and site - or project-specific concerns.

4. Why is SESA Being Applied to ETM in Indonesia?

The ADB's Safeguard Policy Statement (SPS, 2009) was developed to promote the sustainability of ADB-funded projects and programs. The aim of SPS is, to avoid, minimize, mitigate and/or compensate potential adverse impacts of projects on the environment and affected people. The SPS encourages the use of Strategic Environmental and Social Assessment (SESA) in program lending where policy changes will have significant regional and sectoral impacts.

Many countries now have formal requirements and regulations for undertaking strategic assessments of the environmental and social impacts of policies, plans and programs. As ETM moves forward, member countries will need to examine the adjustments which will need to be made in their National Energy Plans and System/Grid analysis. A country-level SESA for ETM implementation will be undertaken in Indonesia (INO SESA) together with the country's specific domestic assessment processes.

5. Two-Phase Approach for the Application of SESA to ETM in Indonesia

A two-phased approach will be followed to apply SESA to ETM:

- Phase 1: Regional Scoping
- Phase 2: National SESA

Phase 1: Regional Scoping

The ETM is targeted to be rolled out across countries in SE Asia. Phase 1 is a regional-level scoping exercise to identify key ***environmental and social risks and opportunities*** associated with retiring CFPPs (including closing mines) and developing renewable energy options (hydropower, wind, solar, bioenergy, geothermal and tidal).

It provides a broad early indication of where the main positive and negative impacts will arise (i.e. in relation to what issues) as a guide for the country-level SESAs and to inform high-level decision-makers involved in ETM formulation and implementation.

Many of the environmental and socio-economic issues associated with transitioning from coal to renewable energy generation are likely to be common, although some may be specific to, or more acute or problematic, in particular countries. The broad aims of the regional scoping phase - to be undertaken at a meta (regional) level, include:

- Identification of the range of ***environmental and socio-economic issues*** that SESA will need to focus on – as a guide for subsequent country-level SESAs;
- Development of a suite of SESA sustainability ***objectives*** to address these issues;
- Identify key ***environmental and social risks and opportunities*** associated with retiring CFPPs and any associated mine closures, and with developing renewable energy options – to be addressed by country-level SESAs;
- ***Stakeholder analysis/mapping*** (integrated with Just Transition stakeholder mapping) and conduct ***preliminary regional-level consultations*** to create awareness of the ETM and the SESA program; and
- Development of ***framework terms of reference*** for country-level SESAs.

This phase was conducted during February to August 2022.

Phase 2: National SESA

The range and mix of energy generation activities (existing and potential) will differ in each country, as will the environmental and socio-economic context for energy transition. It is only at this country level that meaningful SESA can be undertaken. A national level SESA (INO SESA) will be prepared for Indonesia and will be coordinated with strategic environmental assessments (SEAs) that may be required under national legislation/regulations for national energy plans. The INO SESA will require twelve (12) months to undertake.

The Phase 2 INO SESA will be undertaken at a deeper level of assessment considering the national context and circumstances and domestic requirements for such assessments. The INO SESA will address the impacts associated with:

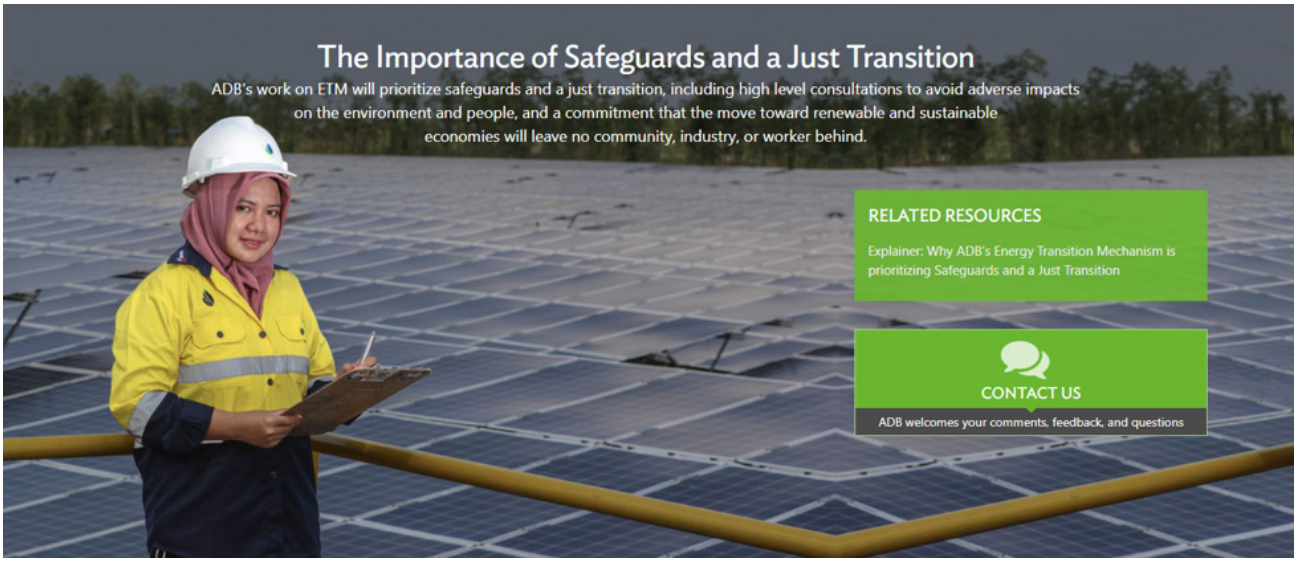
- Retiring of an identified set of existing coal generation plants and associated infrastructure (including mine closure) at locations yet to be determined;
- Development of identified options for new renewable energy generation and associated infrastructure, at locations also yet to be determined.

Project-Level ESIA

Although not formally a part of this SESA program, assets and sites subject to decommissioning and possible re-development, and the development of new renewable energy projects undertaken through the ETM, are likely to be subjected to ESIA. ESIAs for the first pilot ETM interventions may need to be carried out in parallel with the INO SESA. These ESIAs may provide insights concerning key issues, impacts, and appropriate responses to be considered in the SESAs.

6. Stakeholder Engagement and Communication

Stakeholder participation is a key principle of good SESA practice. Stakeholder analysis and mapping has been conducted at regional level (for Phase 1) and at the INO SESA level, initially in August 2022 (for Phase 2). The aim will be to identify key stakeholders and interested parties, inform them about the SESA program and its progress, and provide opportunities for them to engage in the SESA process. Key SESA outputs will be shared on a dedicated INO SESA website to give flexibility in where this is hosted. A link to the ETM web page can be found here.



A SESA Steering Committee will be established, led by the Ministry of Finance, to help oversee and coordinate the SESA process in Indonesia. During the first week of August 2022, a series of initial meetings will be held in Jakarta with key stakeholders to review and provide feedback on: the scope of the SESA; the key issues to be addressed; and to identify potential SESA objectives to address such issues.

A part of the SESA process, inclusive and transparent stakeholder engagement mechanisms will be established for the INO SESA including multi-stakeholder workshops (national, local), focus group discussions (e.g., with particular groups of stakeholders or for particular types of renewable energy technologies), interviews with key individuals, mechanisms to make inputs (e.g., by phone, email), information bulletins, country SESA website). This will be done throughout the entire SESA process with more detailed follow-up scoping meetings being planned for September and October 2022.

The extent of possible face to face stakeholder engagement may be influenced by health risks in the case of pandemic conditions continuing. It these circumstances, it may be necessary to rely on video-conferencing.

7. Key Environmental and Socio-Economic Issues

The regional scoping study has identified key issues likely to be associated with ETM implementation. Most of these issues are expected to be relevant to Indonesia where ETM is to be implemented, however, more in depth scoping consultative sessions may identify some issues that are less relevant or may identify new issues that are specific to and important to the INO SESA. These will be expanded upon based on stakeholder inputs throughout the SESA process.

Table 2: Key Environmental Issues Associated with Closing Coal-Fired Power Plants and Coal Mines and Developing New Renewable Energy Facilities

Themes	Key issues
Habitats and biodiversity	• Deforestation, degradation, fragmentation, and loss of habitats and ecosystem(s) integrity and services; disturbance, displacement, overexploitation, and death of fauna; interruption of migration; changed food webs; and introduction of invasive species
Protected and sensitive areas	• Encroachment and degradation of protected areas, and improved access to remote areas
Greenhouse gas emissions	• Emissions from construction, maintenance, and operational activities, dams, coal mine shafts, and vehicles and fuels used in machinery and at construction camps
	• Reduction of greenhouse gas emissions from closing coal-fired power plants
Air quality	• Pollutant emissions from vehicles, vessels, machinery and plantoperations, geothermal wells
	• Reduction in pollutant emissions through displacement of coal by renewable energy
	• Dust and particulates from land clearing, vehicle movements, demolition and plant operations, and from fires in abandoned mines

Themes	Key issues
Water quality	• Surface and groundwater pollution due to poor management, unsafe disposal and spills/leaks of liquid wastes, chemicals, and toxic substances
	• Run-off of biocides and eutrophication of dams/reservoirs by fertilizer run-off (particularly nitrates), and reservoir stratification (oxygenated and de-oxygenated zones)
	• Seabed disturbance and dredging, increase in suspended sediments and release of contaminants
Solid waste	• Poor management and unsafe disposal and handling of hazardous and non-hazardous solid waste including soil and demolition materials, toxic materials, storage batteries and used solar panels; failure of unremediated impoundments, leading to contamination of land and waterways, and occupying an excessive amount of landfill
Mineral extraction	• Overextraction of minerals used in renewable technologies e.g., wind turbine and solar panel manufacturing
Noise and vibration	• Noise and vibration disturbance from vehicles, machinery, plants, drilling, piling and blasting during construction, maintenance and operations
Land degradation, soil erosion and sedimentation	• Soil and bank erosion (e.g., due to vegetation clearance, road building, landslips) and sedimentation, particularly of dams and waterways
	• Localized river and sea bed erosion and changes in sediment regimes
	• Underground slumpage and failure of mine walls, tailings dams, and stockpiles in closed or abandoned mines
Soil quality	• Reduction in soil nutrients and quality
Land use change	• Loss and degradation of productive agricultural land, forests, grazing land and fisheries, and restricted land access
	• Reclamation and reinstatement of closed mines can provide ecological benefits
Flooding, hydrology and drainage	• Flash floods due to overtopping, emergency releases, dam breaks • Changes to river, tidal hydrology, flow regimes
Water use	• Depletion of local water resources for use in construction, maintenance and operation reducing availability to communities
Health and safety	• Risk of diseases from pollutant emissions (to air, surface, water and ground water) and communicable diseases from influx of migrant workers.
	• Safety risks for workers on site (during construction, maintenance, operation and decommissioning)
Visual impacts	• Change to visual landscape due to industrial infrastructure may reduce amenity and aesthetic value and deter tourists

Table 3: Key Socioeconomic Issues Associated with Closing Coal-Fired Power Plants and Coal Mines and Developing New Renewable Energy Facilities

Themes	Key issues
Regional economic or economic growth	• Closure of coal-fired power plants (CFPPs) and mines will impact national and international coal supply chains and associated business, may result in loss of income tax revenues, less reliable electricity supply and increased tariffs
	• Development of renewables will contribute to economic development and diversification (regional and national)
Legacy socioeconomic issues	• Compensation issues related to land and property loss, lost livelihoods and income that have not been resolved
Employment and labor conditions	• Loss of jobs in closed CFPPs and mines
	• Opportunities for employment, improved labor conditions, and new/improved livelihoods in renewable energy development
Local economy livelihoods	• Livelihoods may be lost (e.g., fishing, farming, small businesses) as a & result of CFPP and/or mine closure or new development
	• Increased debt if people cannot repay loans after losing jobs in CFPPs and/or mines
	• Decline in price of land and housing (and rental values) following CFPP and/or mine closure
	• Increased illegal mining as investment in managed or regulated coal mines is reduced
Gender and vulnerabilty	• Women and vulnerable groups (including female and disabled workers, children, and elderly people) and indigenous communities (particularly in remote areas) may be disadvantaged and at particular risk
	• Increased gender-based violence due to loss of income and land, relocation, and an influx of predominantly male migrant workers
	• Opportunities for women and vulnerable groups to acquire new skills and learn new technologies and to engage in decision-making processes
Food security	• Production of crops for energy generation may reduce the area of land available for food crops and lead to malnutrition in rural areas, particularly in women and children
	• An increase in the price of crops grown for energy generation could provide an economic benefit for crop producers
Skilled workers	• Loss of skilled workers following CFPP and/or mine closures
Physical and economic displacement	• Land acquisition for renewable energy development may result in displacement and involuntary resettlement of people (including indigenous peoples in remote areas)
	• Local communities could regain access to land occupied by CFPPs and/or mines for livelihood and redevelopment purposes following decommissioning and closure

Themes	Key issues
Indigenous communities	• Employment for indigenous peoples on renewable energy projects
	• Opportunities for indigenous peoples to repossess land for agricultural use (e.g., communal and/or collective farming) or for traditional practices
Conflicts	• Potential conflicts between people (e.g., overuse of, and access to, repossessed land) if land price increases following site repurposing or redevelopment
Migration	• Social disruption caused by migrant construction workers entering a community or region
	• Outward migration of skilled workers
Community engagement and cohesion	• Destabilization of households and communities following CFPP and mine closure and/or renewables development due to relocation and outward migration
	• Household conflict following loss of income
	• Loss of community identity
Cultural heritage	• Loss of cultural, religious, historic, and archaeological sites, customary or traditional indigenous commuities territories, when land acquired for renewable energy development
Public services and infratsructure	• Loss of local public facilities and services (e.g., schools, clinics, local bus services supported through corporate responsibility budgets) following closure of CFPP and/or mine
	• Improved public facilities and services as a result of companies' community investment and corporate responsibility programs
Telecommunications and aviation	• Wind turbines can cause electromagnetic interference to telecommunications systems, impact aircraft safety and disrupt aviation radar
	• Concentrating solar power systems in some circumstances can potentially interfere with aircraft operations if reflected light beams become misdirected into aircraft pathways
Human rights	• Energy companies and their suppliers (e.g., mineral mining companies) may violate the rights of workers and communities (e.g., rights to land, livelihoods, forced labor, child labor, ability to undertake traditional cultural practices)

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If you would like to contact the SESA team to make a comment, provide a perspective on an issue or offer information on the INO SESA, please send an email to:

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