

## **2X100 MW Coal-Fired Power Plant**

**Tanjung Power Indonesia**

### **Environmental and Social Impact Assessment (ESIA)**



## **EXECUTIVE SUMMARY**

## 1. Overview of The Project

PT Tanjung Power Indonesia (TPI) has been awarded a Principal Permit as per Tabalong Regency Decree No. B- 306/Bappeda/Sekr/050/10/2013 dated 25 October 2013 on the Approval for construction of CFPP Kalsel 2 x 100 MW. Based on Tabalong Regency Decree No. 188.45/148/2014 on Location Permit of PT Tanjung Power Indonesia CFPP Kalsel 2 x 100 MW, the proposed power plant is to be located at Tanjung - Balikpapan road, Mabu'un village, Murung Pudak Sub District, Tabalong Regency, South Kalimantan Province.

The Coal-Fired Power Plant (CFPP) project was developed by TPI in order to meet the needs of electrical energy, particularly in South Kalimantan Province, and to improve energy security in electrical distribution by PLN in the area of South Kalimantan, East Kalimantan, and Central Kalimantan.

The Project will be also need to develop internal roads, fuel storage tank, cooling water intake and outlet discharge, transmission line 150 kV, grid connection to the PLN grid and administration building. The Project Description has been assessed to have a number of activities which have potential to impact the environment, they are:

- a) Preconstruction Stage
  - Land acquisition
  - Construction workers recruitment
- b) Construction Stage
  - Material and equipment mobilization
  - Land clearing and grading
  - Power plant construction
  - Transmission line network 150 kV (SUTT)
  - Supporting Facilities construction
- c) Operation Stage
  - Operation workers recruitment
  - Coal and additives handling system
  - Power plant operation
  - Supporting facilities operation
- d) Post Operation Stage
  - Workforce Layoff
  - Transfer to PLN

As part of the environmental and social processes for project implementation, an AMDAL must be completed to meet the requirements of Indonesian standards. The project is potentially being funded by international financiers who may require Equator Principles (EPIII) environmental standards, which are interpreted by the International Finance Corporation (IFC) and as such, may require an IFC-compliant Environmental and Social and Impact Assessment (ESIA).

Public announcement in the local mass media (Banjarmasin Post) and in banner format placed in village and district government offices were done in June 2014. A public consultation was held in Tabalong Information Centre Building on 26 June 2014.

## 2. The Proponent

The consortium of PT Adaro Power (Adaro) and Korea East-West Power Co. Ltd., has countersigned a letter of intent issued by PT PLN (Persero) on March 21, 2012 by which the Consortium agrees to undertake the design, engineering, financing, construction, testing, commissioning, ownership, management, operation and maintenance of a coal-fired IPP project of 2x100 MW (net) capacity. The Consortium has established a special purpose vehicle, PT. Tanjung Power Indonesia (TPI), to enter into the power purchase agreement (PPA) with the Indonesian national power company PLN.

## 3. Legal and Regulatory Framework

Indonesia is divided into administrative zones in five layers. At the top level is the Republic of Indonesia, which consists of 33 provinces. A province or a Level 1 region is led by a Governor. A province is then subdivided into regencies, each lead by a Head of Regency or *Bupati*, then subdivided again into districts and villages. Within the provinces, there are city governments which have the same status and level as regencies. These city governments are lead by mayors or *Walikota*. Rather than there being a division of responsibilities, the government institutions in provincial and regency levels tend to be a replication of each institution at the National level, only the geographical focus changes.

Power projects are developed under the National Ministry for Mines and Energy under a number of national regulations and decrees. Electricity is managed in Indonesia by the state owned (Persero) electricity company PLN which purchases power from private power generators via a Power Purchase Agreement (PPA). Under the PPA, feed-in tariffs are set, as well as the arrangements for owning and sharing infrastructure such as transmission lines.

Indonesia also has a complex set of public and private institutions responsible for various aspects of the energy sector. The Ministry of Environment (KLH) and provincial and regency/city environmental management institutions are the main government institutions responsible for environmental management in Indonesia.

The Project also seeks to complete an international ESIA that will comply with Equator Principles, and to achieve this have adopted the IFC Guidelines as the framework for the compilation of this ESIA. Under the guidelines a number of countries are listed under which the local EIA process is deemed appropriate for acceptance as a suitable environmental and social assessment, Indonesia is not one of those countries.

### 3.1 Indonesian Regulations for Environment

The Indonesian AMDAL process is a statutory process required under ministerial decree (currently Government Regulation No 27 2012). It requires a number of stages in the development of an environmental and social impact assessment through a process which involves consultation with the

community, government and a technical committee appointed to review the assessment and issue a letter of environmental feasibility. Key elements of an AMDAL are the ANDAL or Environment Impact Assessment listing the Project Description and a statement of potential impacts and mitigations, and its Environmental Management Plan (RKL) and environmental monitoring plan (RPL). It is preceded in the process by the setting of the terms of reference (KA-AMDAL) in conjunction with an appointed AMDAL review committee. The composition of the AMDAL review committee depends upon the jurisdiction in which the AMDAL is to be submitted, as a general rule a project which is only contained in one regency is overseen by the environmental authorities of that regency, or if a project traverses regency boundaries it will escalate to a Provincial level, however on occasions the National Ministry of Environment becomes involved when the project is deemed to be in the national interest or as it spans across more than one province.

The AMDAL needs to address the potential impacts of the project and report its management of a number of Indonesian regulations concerning but not limited to:

- AMDAL and Environmental Legislation
- Specific Legislation on the construction of Coal Fired Power station
- Indonesian regulations for Land Acquisitions for projects of State significance
- Indonesian Regulations for Air Quality and Air Emissions
- Indonesian Regulations concerning Surface Water, Groundwater and Wastewater
- Indonesian regulations for Waste and hazardous waste management
- Indonesian regulations concerning Biodiversity
- A number of Local Regulations

The AMDAL for this project is submitted to the Tabalong regency.

### **3.2 International Guidelines**

The consortium seeks to comply with Equator Principles III which outlines the overriding principles for safeguarding the community and environment as defined by the Equator Principles Financial Institutions (EPFI). Those principles refer to the application of IFC guidelines for the assessment of the environmental and social aspects of the project. Therefore, this ESIA has been prepared to address the assessment of the project using the IFC guidelines as defined by its policy on environmental and social management of projects as published in January 2012. The policy is articulated through the definition of a series of eight performance standards, covering various aspects of project development. Those standards are:

- Performance Standard 1: Assessment and Management of Environmental and Social Risks and Impacts
- Performance Standard 2: Labor and Working Conditions
- Performance Standard 3: Resource Efficiency and Pollution Prevention
- Performance Standard 4: Community Health, Safety, and Security
- Performance Standard 5: Land Acquisition and Involuntary Resettlement
- Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources
- Performance Standard 7: Indigenous Peoples

- Performance Standard 8: Cultural Heritage

It also defines a series of scales or categories under which the performance standards will need to be interpreted; essentially different levels of project will trigger a different response and level of analysis and reporting. The categories are:

- Category A: Business activities with potential significant adverse environmental or social risks and/or impacts those are diverse, irreversible, or unprecedented.
- Category B: Business activities with potential limited adverse environmental or social risks and/or impacts that are few in number, generally site-specific, largely reversible, and readily addressed through mitigation measures.
- Category C: Business activities with minimal or no adverse environmental or social risks and/or impacts.

Mine mouth coal fired power stations are Category A projects, since they have the potential to generate impacts which are significant and irreversible, albeit that modern mitigation strategies and methods reduce the risk of those impacts. This means that they are generally required to provide a full ESIA with substantial rigor behind their analysis of baselines, potential impacts and mitigated outcomes, and a comprehensive Environmental and Social Action Plan to indicate how the outcomes will be managed, monitored and if necessary corrected.

#### 4. ESIA Approach and Methodology

IFC PS 1 is the cornerstone and key link of all eight IFC performance standards. It requires a project proponent to conduct an environmental and social assessment, and to establish and maintain an Environmental and Social Management System (ESMS) *'appropriate to the nature and scale of the project and commensurate with the level of its environmental and social risks and impacts'*. It follows, that the project has to:

- Demonstrate that the proponents maintain an overarching ESMS;
- Produce an Environmental Impact Assessment; and
- Document its project-specific ESMS – referred to as An Environmental and Social Action Plan (ESAP)

The framework under which an IFC ESIA is undertaken cascades down from the performance standards to a set of EHS guidelines – there is a general EHS Guideline and a series of industry specific guidelines. The guidelines are just that – guidelines; in as much as they often quote standards and concentrations that should be applied and sometimes they defer to local standards, but often give examples of other standards and approaches that can be used, requiring that their use should be justified. As a general rule it is best to apply the standards that are quoted in the guidelines. Thus there is a trace from the IFC policy document, with its performance standards through to the methodologies that are used to determine parameters, assess impacts and determine environmental risks. For this project the following guidelines in addition to the performance standards need to be adhered to:

Equator Principles III – June 2013;

- IFC General EHS Guidelines, April 2007;
- IFC EHS Guidelines for Thermal Power Plants, April 2007
- IFC EHS Guidelines for Electric Power Transmission and Distribution, April 2007;
- IFC Introduction to Health Impact Assessment; 2009; and
- IFC Good Practice Guide for Stakeholder Engagement May 2007.

The definition of impacts needs to be an objective exercise, it predicts the potential for the project and its associated activities to change the existing environmental values as a consequence of its implementation. The cornerstone of impact prediction is the project description, which needs to define all the elements of the project and associated activities. The prediction and evaluation of impacts, is often an iterative process, involving the project design team in the optimisation of project design to mitigate against the potential impacts of the project. In the case of environmental impacts, this may be something such as the relocation, or alteration of footprints in the alignments to avoid loss of ecosystems, and in the case of social elements it could include aspects of timing, use of local resources or other aspects of interaction with the community that may enhance potential benefits, or reduce potential negative effect.

In order to assign significance to potential impacts, a risk based framework has been applied that considers the severity of an impact, and the likelihood of its occurrence. The severity of an impact is derived from a combination of the magnitude of the change to the existing baseline condition, the duration of the impact and the ability of the environment to recover after its occurrence, and the sensitivity and extent of the sensitive receptors or the ability for the impact to be assimilated.

Significance	Definition
<b>Positive Impact</b>	An impact that is considered to represent an improvement on the baseline or introduces a new desirable factor
<b>Negligible Impact</b>	Magnitude of change is comparable to natural variation
<b>Minor Impact</b>	Detectable but is not significant - should be further mitigated if possible but is an acceptable risk
<b>Moderate Impact</b>	Significant, amenable to mitigation, should be further mitigated if possible borderline acceptability.
<b>Major Impact</b>	Significant; amenable to mitigation; must be mitigated - not acceptable
<b>Critical Impact</b>	Intolerable; not amenable to mitigation; alternatives must be identified – Project Stopper

In the first instance it is necessary to make some assessment of the potential significance of impacts before mitigation (raw significance). This is often a conceptual exercise, since it is inevitable that mitigation will be applied through good industry practice using best available technology. What is important is to make an assessment of the residual risk, after mitigation has been applied (mitigated significance).



It must be noted that critical impacts, are not acceptable for planned operations, and can only be tolerated in the instance of unplanned or incidental events, and only then when the likelihood of occurrence has been reduced through project planning to least low or unlikely. Mitigation of all negative impacts and enhancement of positive impacts have formed part of the project design process.

It is always desirable to mitigate impacts by design, effectively reducing or eliminating the potential for the impact significance. There is then a hierarchy of mitigation where the next mitigation strategies, in general terms of decreasing desirability, which are mitigate at source, mitigate at receptor and finally, if other options are not available to offset or compensate. Whatever the mitigation strategies that are developed, it will be necessary to have a plan for their implementation through an Environmental and Social Action Plan, and to have plans for their management through the relevant phases of the project and monitoring their effectiveness through and Environmental and Social Management Plan (ESMP).

## **5. Brief Description of the Project**

Administratively, the 2x100 MW Coal Power Plant Project is located in Jl. A Yani RT 01 RW 01, Mabu'un Village of Murung Pundak Sub-district, Tabalong Regency, South Kalimantan Province with a total area of approximately 42 hectare [ha]. Project location map is presented in Figure 1 . The project is expected to require 42 hectares of land, on a site to be adjacent to another existing 30MW power station operated by PT Makmur Sejahtera Wisesa (MSW). The land is designated as freehold (APL) under the Forestry designations, which at a national level define land status in Indonesia. Land in Indonesia almost always has a status which is recognised at a village level and ratified at a regency level, MSW currently hold a HGB (right to develop) for the land as recognised under local designations. MSW and TPI are both associate companies of the Adaro Group, which currently utilises the land as palm oil plantation.

## **6. General Social Setting**

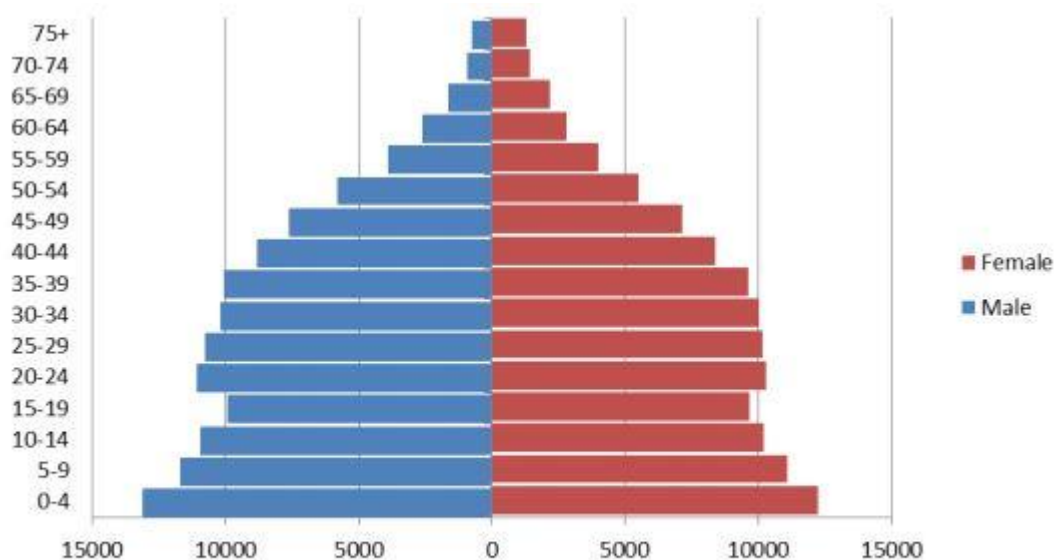
### **Socio economic and Socio-Cultural**

The project will take place in the Tabalong Regency involving the subdistricts of Murung Pundak and Tanta, and the villages of Mabu'un, Warukin and Padang Panjang. The project is immediately adjacent to the village of Mabu'un which also houses an Indonesian and Armed Forces residential area (ASABRI) which is immediately adjacent to the site. Community engagement has taken place for the project in the area, and a survey has been completed in the surrounding villages to collect primary data with respect to social economic parameters and public health. Thus the understanding of the current social setting is based on a combination of primary and secondary data for the Tabalong Regency in general, and more specific information from surrounding villages.

As is usually the case in Indonesia, this industrial area attracts a large number of people who work in and around the mine and existing power station, as well as the members of ABRI. The population of the Tabalong Regency is approximately 232,000 people, with a fairly even gender ratio of about 1.02 M/F. In the villages surrounding the mine and power station there is not surprisingly the skew in the

gender ratio for instance in the village of Mabu'un the total population is 9,483 with a gender ratio of 1.22 M/F.

The demographic profile of the Tabalong Regency is consistent with that of greater Indonesia with a bulk of the population below 45 and a fairly rapid decay in the age groups above. Figure 2 shows the demographic profile of the Tabalong Regency, the profile for the Murung Pudak sub District, immediately adjacent to the plant and mine shows a distortion of demographics around the working ages from 23 to 40, again this seems to be consistent with the availability of work in the industries.



**Figure 2 Demographic Profile of the Tabalong Regency**

Workforce and labour statistics for the Tabalong Regency indicate that an overwhelming portion of jobseekers are male, unemployment is reported to be approximately 28%. However, these statistics are often somewhat unreliable in Indonesia as often people will record themselves as looking for work where they may already have some part-time or personal business. Employment in the study area shows about 30% of the workforce are engaged as private employees in industry 24% work in agriculture 13 % in the public sector (public servants and military) and about 29% list themselves as traders or entrepreneurs.

Although the predominant ethnic subgroup of the area is Dayak the sub District of Murung Padak has a more diverse community with numerous immigrants moving into the area for work (some from other areas of Kalimantan but overwhelmingly Javanese). The community is very close knit and has strong community values, despite its diversity this is mostly because the overwhelming social and cultural influence is the Muslim religion, which is followed by 92% of the community. The influx of immigrant workers has exerted some pressure for cultural change, which is usually quite strongly opposed, where more liberal views clash with conservative religious values. However, tensions and conflict are rare.

Perception surveys indicate that general community acceptance of industrial activities and perception of the power plant is quite positive; however they do seem to be some underlying concern about some of the history of land acquisition (which is always quite common in remote



communities in Indonesia). The community has expressed some concerns about the project relating to:

- concern of loss of land or property (22%);
- concerns about air pollution (20%);
- concerns about influx of foreign workers bringing a moral activity and potential drugs (20%);
- concern about road safety and traffic (16%);
- concerns about noise and vibration (5%).

Presumably many of these perceptions are based on the existing power plant, anecdotally there are suggestions that since that plant has been commissioned, ashfall is quite common (this is not been tested, and may also be related to coal dust).

## 7. Impacts and Mitigation

### Inventory of Potential Impacts

The project was assessed for potential impacts using the risk based approach. A total of 104 potential environmental and social impacts were identified, of those 11 were considered to be of negligible impact without mitigation. mitigation strategies were then developed for impacts of minor significance or greater, rendering a total of 54 potential impacts to be negligible after mitigation. Table 2 shows a complete summary of the Raw Significance prior to mitigation and the Residual Significance after mitigation is applied. Table 3 provides a list of the impacts assessed to have a significance of “Minor” or greater, after mitigation was applied (3 Major, 5 Moderate and 33 Minor).

**Table 2 Summary of the Impacts Inventory prior to and after mitigation strategies were applied**

Type	Project Phase	Total	N/A	Major	Moderate	Minor	Negligible	Positive
<b>Raw Impacts</b>								
Environmental	Pre-Construction	16		1	5	7	3	
	Construction	35		2	14	13	6	
	Operation	29		8	13	6	2	
Social	Pre-Construction	5	2		2			1

Type	Project Phase	Total	N/A	Major	Moderate	Minor	Negligible	Positive
	Construction	11		4	3	3		1
	Operation	11		5	3	1		2
	<b>TOTALS</b>	<b>107</b>	<b>2</b>	<b>20</b>	<b>40</b>	<b>30</b>	<b>11</b>	<b>4</b>
<b>Mitigated Impacts</b>								
Environmental	Pre-Construction	16				4	10	2
	Construction	35	1			9	24	
	Operation	29		1	4	15	9	
Social	Pre-Construction	5	1				3	1
	Construction	11				5	5	2
	Operation	11		2	1	1	3	4
<b>TOTALS</b>		<b>107</b>	<b>2</b>	<b>3</b>	<b>5</b>	<b>34</b>	<b>54</b>	<b>9</b>

**Table 3 Impacts with a Residual Significance of Minor or Greater (see below for description of mitigation strategies)**

	Impact Code	Project Phase		Impact Significance	
			Impact	Raw	Mitigated
Surface Water Quality					
	WQ002	Pre-Construction	Potential for surface erosion of soils in rain events - Preconstruction	Major	Minor
	WQ004	Construction	Potential sediment transport caused by erosion of soils in spoils in rain events	Major	Minor
	WQ007	Operation	Potential sedimentation run-off from unsurfaced roads, as well as oils and fluids spilled the Road	Moderate	Minor
	WQ008	Operation	Potential for Ash Pond overflow during rain events	Moderate	Minor
	WQ006	Operation	Plant water run-off - Operation	Moderate	Minor
	WQ005	Operation	Plant water effluent - Operation	Major	Minor
	WQ009	Operation	Run-off from coal stockpile area - Operation	Moderate	Minor
Surface Hydrology and Hydraulics					
	HDRL003	Construction	Changes to natural drainage due to construction of the ash pond	Moderate	Minor
	HDRL007	Operation	Changes to local drainage caused by the plant site	Moderate	Minor
Groundwater					
	GW006	Operation	Potential leaching of contaminated waters to groundwater aquifers from the Ash Pond	Major	Moderate
	GW007	Operation	Potential leaching of contaminated water to groundwater aquifers from the coal Stockpile	Major	Moderate

	Impact Code	Project Phase		Impact Significance	
			Impact	Raw	Mitigated
Air Quality					
	AQ002	Pre-Construction	Dust generation and wind erosion from exposed and disturbed soils	Moderate	Minor
	AQ001	Pre-Construction	Dust generation and wind erosion from exposed soils	Minor	Minor
	AQ005	Construction	Dust generation due to vehicle traffic over unpaid surfaces	Major	Minor
	AQ003	Construction	Dust generation by vehicle movement over unsealed surfaces	Moderate	Minor
	AQ007	Operation	Vehicle emissions from road use	Minor	Minor
	AQ008	Operation	Generation of dust from Road surface, and shedding of coal dust from coal haulage	Moderate	Moderate
	AQ006	Operation	Source emissions from chimney stacks	Moderate	Minor
	AQ010	Operation	Potential shedding of coal dust from coal handling	Major	Major
	AQ009	Operation	Potential for dust emissions during ash handling	Major	Minor
Noise and Vibration					
	NOI002	Pre-Construction	Noise during Land Clearing	Moderate	Minor
	NOI004	Construction	Construction noise	Moderate	Minor
	NOI006	Operation	Increased noise level due to all plant operations and transportation	Moderate	Minor
	NOI005	Operation	Increase noise around Haul roads	Moderate	Minor

<b>Terrestrial Ecology Fauna</b>					
	FLRA005	Operation	Potential strikes of avian species on power lines and towers	Minor	Minor
<b>Waste Management</b>					
	WAST005	Operation	Overall waste management for operation	Major	Minor
<b>Sustainability and Climate Change</b>					
	SUS001	Construction	Greenhouse gas generation by plant and equipment powered by combustion engines	Moderate	Minor
	SUS002	Operation	Greenhouse gas emissions	Moderate	Moderate
<b>Traffic and Transport</b>					
	TT003	Construction	Post-construction demobilisation of large plant and equipment	Moderate	Minor
	TT004	Construction	Daily mobilisation of construction staff to site, causing traffic congestion.	Moderate	Minor
	TT005	Construction	Heavy vehicle usage on local roads	Moderate	Minor
<b>Visual Impact</b>					
	VIS003	Operation	Light spill from night time operations and security	Moderate	Minor
<b>Environmental Risk</b>					
	ENRI002	Operation	Potential hazards associated with the storage and use of bulk fuels during operation	Minor	Minor



	Impact Code	Project Phase		Impact Significance	
			Impact	Raw	Mitigated
Socio-Economic					
	ECON004	Construction	Post-construction demobilisation of workforce	Moderate	Minor
Working Conditions and OHS					
	WORK002	Construction	Health and safety of construction workforce	Major	Minor
Public Health					
	PH002	Construction	Influx of foreign workers - causing introduced illnesses and diseases	Major	Minor
	PH001	Construction	Potential exposure to safety hazards for community who may encroach on the site	Minor	Minor
	PH004	Operation	Generation of dust from Road surface, and shedding of coal dust from coal haulage	Moderate	Moderate
	PH005	Operation	Potential exposure to hazards for encroachers	Moderate	Minor
	PH006	Operation	Potential for ash dust drift to nearby communities due to ash handling and operational phase	Major	Major
	PH007	Operation	Public exposure to coal dust from operation of the coal stockpile	Major	Major

In addition the following Positive residual impacts were identified:

	Impact Code	Project Phase	Impact	Raw Significance	Mitigated Significance
<b>Land Use and Planning</b>					
	LUP001	Pre-Construction	Currently some misalignment with the spacial plan for the site	Moderate	Positive
<b>Waste Management</b>					
	WAST002	Pre-Construction	Management of Vegetation Waste	Negligible	Positive
<b>Socio-Economic</b>					
	ECON002	Pre-Construction	Hiring of Pre-construction workforce	Positive	Positive
	ECON003	Construction	Employment of locals in construction workforce	Positive	Positive
	ECON006	Operation	General flow on of employment in the area	Positive	Positive
	ECON005	Operation	Engagement of local workforce	Positive	Positive
	SOC006	Operation	Community perception during operation	Minor	Positive
<b>Working Conditions and OHS</b>					
	WORK001	Construction	Employment conditions of construction workforce	Major	Positive
	WORK004	Operation	General working conditions of operational workforce	Major	Positive

## 8. Review of Social, Socio-economic and Public Health Impacts and Mitigation

As part of the social impact assessment process, stakeholder engagement has taken place in accordance with International guidelines and AMDAL process. Key stakeholders had been identified and included in the Stakeholder Engagement Plan. In the execution of the collection of social baseline more than 300 households were surveyed and as part of that process socialisation of the project and feedback were achieved. Many of the results of the socio-economic assessment have taken in to account the community feedback obtained through that process.

### **8.1 Socio-Economic-ECON (6 potential impacts)**

Most of the socio-economic influences of the project are associated with the employment of the local workforce, and the flow on effects from increased economic activity in the immediate area. There will be a limited amount of economic displacement because of the project, since most of the land has already been acquired by Adaro or associated companies. There will be some land acquisition associated with the transmission corridors, but again most of this land is currently palm oil plantation being exploited by the ATA, and Adaro subsidiary.

Thus in general, the socio-economic impacts of the project are positive for the local communities with the provision of jobs, and expansion of business opportunities the predominant influences. The peak period of employment will be approximately 9 months into the construction phase, when it is expected that the workforce will reach 700 to 800 personnel approximately 80% of which will be employed from the local community. Of course associated with this ramp up will be the gradual deployment of the workforce as the construction phase is completed, transitioning into a workforce of approximately 150 personnel for operation. Through all phases of the project there will be a bias towards the preferential hiring of local personnel.

### **8.2 Socio-Cultural-SOC (6 potential impacts)**

In general the community has a positive perception of the project, although there are some concerns being expressed concerning dust fall and potential respiratory problems caused by current activities. The community immediately adjacent to the plant is an ABRI housing complex, although many of the community members are military, there are a number of other public servants who live there. There is an expectation that the new plant will provide employment for local personnel. Communities surrounding the site tend to be fairly close knit and although diverse in background, they tend to be bound by their Islamic faith to a strong sense of community and unity. As with many communities in remote areas, these communities tend to hold fairly conservative values and are concerned about the influx of “outsiders” who may be bringing with the more liberal values, and there is a concern about the possibility of drugs being involved.

The project will hire staff preferentially from the local communities and will be looking to enhance the positive impact of employment and community perception through its employment policies. Open and transparent community engagement has commenced as part of the AMDAL/ESIA process and is expected to continue. A grievance mechanism will be established with commensurate lines of communication and points of contact.

### **8.3 Community Displacement-DISP (2 potential impacts)**

The project will occupy land which is currently owned by Adaro or its related companies. MSW currently hold a “right to develop” over the site, which will be transferred to TPI for the plant. It is understood that historically, MSW acquired the right to develop from local landholders by the payment of compensation anecdotally, it has been suggested those transactions place approximately 5 years ago. At the time of preparation of the summary, the history of those

transactions is being assessed against the IFC principles of fair and reasonable compensation for community displacement. There was no physical displacement involved in any of the land acquisition, since there were no residents on the land at the time that it was acquired, or compensation would have involved the offset of economic displacement.

It is not unusual in any remote community for the local people to raise concerns over project land acquisition, and although it is not a strongly expressed opinion, there are those who raise some concerns about the acquisition of the land. In accordance with IFC performance standard 5, a review of the land acquisition process is currently being undertaken, if necessary a Supplementary Resettlement Plan will be prepared to address the requirements of the standard. However at this stage is understood that all transactions were conducted on a willing buyer and willing seller basis.

#### **8.4 Community Amenity-AMEN (2 potential impacts)**

The communities surrounding the plant site are quite well established and by some of the remote community standards established in Kalimantan, have a reasonable level of service from schools, marketplaces, health facilities restaurants and food sellers and places of worship. As the communities have developed around the presence of the mine and existing power plant, the presence of industry in the area is reasonably well established in fact many of the local community are people who are moved to the area to avail themselves of the work available. The project is not expected to have a major impact on community amenity, beyond the flow on effects of the additional employment and economic stimulus in the area. During operational phase the project staff will number approximately hundred 50 personnel at site many of which will be drawn from the existing community, although they will be some who will migrate to the area. At the peak of construction the workforce is expected to reach 700 personnel many of which were drawn from the immediately close communities are quite a few more from surrounding areas. Construction workforce is likely to put a strain on community facilities in particular mosques.

The project will monitor the situation and assist with facilitating places of worship or augmenting capacity as required. The current project site is not a common place of community gathering or egress and will not represent any significant change to community amenities for the lost space. There may be some restrictions in egress during the construction of the haul road and transmission corridors; however these will be minor and manageable.

#### **8.5 Working Conditions and OHS-WORK (4 potential impacts)**

The project and all contractors of the site will be required to meet Indonesian standards for employment and working conditions, including minimum wage standards working hours and amenities. All contractors will be required to meet minimum working condition standards, and provide proof of same as part of tendering and contracting. Similarly the project will adopt the safety standards of the Adaro group, which are established as international standard safety procedures and management and reporting strategies. Safety requirements will be part of tender specification for all contractors and subcontractors who will necessarily need to sign on to the safety management system of the project and demonstrate appropriate procedures such as health and safety plans for activities and stop work protocols for unsafe conditions.



## 8.6 Public Health-PH (7 potential impacts)

The local communities are reasonably well serviced by health facilities which are not expected to be strained by the presence of either the construction or operational workforces. Health statistics from the local community suggest a prevalence of respiratory and dust related conditions and illnesses. It should be remembered that many of the local community actually work at the mine also, so it is not known to what extent this is influenced by any work-related conditions. Air-quality impacts will be managed to minimize any potential contribution from the project to parameters which may influence respiratory or related conditions.

At the peak of the construction phase there will be an influx of foreign workers estimated to be approximately 150 to 250 personnel. The migration to the area is expected to bring with it the possibility of the spread of communicable diseases and illnesses including influenza and related conditions and potentially STDs. The project intends to manage this potential impact through appropriate medical management of staff, and education.

The increased activity on the roads around the area from both the transportation of plant and equipment, and the general traffic volume caused by the workforce travelling to the site will increase the potential for accidents for road use and pedestrians. This will be managed by the appropriate design of road interchanges, education of drivers, management of peak traffic periods and the movement of long wide loads.

As with any construction activity, there is the potential for incidental encroachment into the project site which has the potential to expose members of the community to hazards and dangers of industrial and construction activity. This will be managed by fencing the sites as soon as possible, installing appropriate signage and lighting and establishing security systems to minimize the potential for encroachment. There will be an encroachment response plan to deal with unauthorized personnel entering construction and operational areas.

## 9. Conclusions

The TPI 2x100MW power plant but is proposed to be constructed in Tabalong Regency will be a best available technology (BAT) installation close to the mine from which it will derive its fuel. As such, it will need the urgent needs of the provincial communities for a continuous supply of sufficient electrical power, currently lacking throughout the province. The plant will be installed in an area which is already supporting industry and will not represent any form of material change of use from the existing activities in the area. As would be expected with a project of this nature, there will be some environmental impacts. The TPI joint venture has addressed those impacts through this environmental assessment and reduced their significance to as low as reasonably possible (ALARP) in accordance with international standards defined by Equator Principles III (EPIII). This ESIA has been prepared in accordance with IFC Guidelines for environmental assessment, as recognised by EPIII to be a suitable framework for the preparation of such assessments. All of the potential impacts of the plant had been identified and their potential significance assessed in a risk assessment framework mitigation strategies has been considered for all potential impacts using a hierarchy of mitigation which applies elimination, prevention and reduction in that order. The expected outcomes from

mitigation and residual impact have been predicted and monitoring system has been proposed to ensure that they are met. In accordance with the guidelines, and environmental and social action plan has been prepared, which outlines in detail how potential impacts will be mitigated, managed and monitored and assigns responsibilities to project personnel for their execution.