



REPUBLIC OF INDONESIA

List of Medium-Term
Planned External Loans and Grants
(DRPHLN-JM) 2006 – 2009
3rd REVISION - 2009

**Ministry of National Development Planning/
National Development Planning Agency**

FOREWORD

In the context of attaining the national development targets as stated in the 2004-2009 National Medium-Term Development Plan, the Government of Indonesia has endeavored to utilize various sources of development funding, one of which is external loans and grants.

The DRPHLN-JM or commonly referred to as the Blue Book, is one of the planning documents in the sequential process of planning activities that are funded by external loans and/or grants. The issuance of the Blue Book is mandated by Government Regulation Number 2 on Procedure for the Procurement and Forwarding of Loans/Grants and based on the Decree of the Minister for National Development Planning/Chairman of Bappenas Number PER.005/M.PPN/06/2006 on the Procedure for Planning and Submitting Proposals and Evaluation of Projects that are Funded by External Loans/Grants.

The Blue Book contains projects that have been proposed by ministries, regional government agencies and state owned enterprises. The compilation of the project proposals is part of national development planning in the context of attaining the targets of the RPJMN (National Medium-Term Development Plan). Out of the total of project proposals that have been received by the Ministry of National Development Planning/National Development Planning Agency, only proposals that have been deemed as eligible for being funded by external loans and/or grants and proposals that are in accordance with the direction of national development, will be entered into the Blue Book.

The third revised of this 2006-2009 Blue Book has included several additional urgent proposed projects that are to be carried out in 2009 and 2010, especially in order to anticipate the energy crisis, and also includes some revisions and adjustments to projects which have already been in the 2006-2009 blue book that need a change in source and funding value in order to anticipate the needs of the fulfillment of the program during implementation.

This third revised Blue Book, contains 3 newly proposed projects in the total amount of USD 925,6 million and revised old proposals comprising 15 projects assistance in the total amount of USD 4.88 billion.

It is hoped that the issuance of this revised 2006-2009 Blue Book can accommodate planned projects that are to be funded by external loans and grants. It is also hoped that the funding sources can be procured in a short period of time so that such funding will be able to contribute to attaining the national development targets as contained in the 2004-2009 National Medium-Term Development Plan.

State Minister for National Development Planning/
Chairman of the National Development Planning Agency

Paskah Suzetta

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= *NEW PROPOSAL* =

Ministry of Public Works

- 1. Project Title** : Climate Friendly and Sustainable City Development (Eco City),
Phase: Solid Waste Improvement Management
 - 2. Duration** : 36 months
 - 3. Location** : All provinces in Indonesia
 - 4. Executing Agency** : Ministry of Public Works
 - 5. Implementing Agency** : Directorate General of Human Settlement, Ministry of Public Works
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6. Background and Justification

Final disposal sites in Indonesia still using old system, which is open dumping. The consequence of the application of open dump is that this type of solid waste management emits methane gas that creates environmental problems such as local air pollution and increases the risk of fires and explosions at the landfill site. Landfill gas contributes to global warming as it enlists methane gas that is one of the green house gases. It's global warming potential that is twenty one times larger than that of carbon dioxide leads to the importance of this gas to be nutigated in such a way that could give not only environmental benefit but also economic as well as social benefit.

The Clean Development Mechanism (CDM) is one of the two project-based flexible mechanisms of the Kyoto Protocol. These mechanisms are designed to make it easier and cheaper for industrialized countries to meet the greenhouse gas (GHG) emission reduction targets that they agreed to under the Protocol. The CDM is also mandated to assist developing countries in achieving sustainable development. The development of the CDM in Asia, particularly South-East Asia, has been slower than in other regions due to a number of factors including continued skepticism over the value of the mechanism for developing host countries. Indonesia is one of the countries that agreed to under the Protocol. As the consequence to this ratification, Indonesia has attracted other countries' attention to become the host country for the CDM projects. Support in improvement and implementation existing solid waste management in Pekalongan, Surakarta, Yogyakarta and Surabaya with emphasis on the landfill management by upgrading the existing controlled landfill into a sanitary landfill including an adequate storm water drainage and leachate collection/treatment, fencing, facilities for waste pickers, coverage of inactive landfill areas, installation of a CDM certified methane catchments, introduction of an adequate emission control and monitoring system, improvement of the general solid waste operation and management

7. Priority

Infrastructure

8. Objectives

- a. To improve performance of final disposal site in Pekalongan, Surakarta, Yogyakarta and Surabaya.
- b. To capture and process biogas from final disposal site.
- c. To improve environmental condition.
- d. To optimize the existing performance of Final Disposal Site for achieving CDM.

9. Activities

- a. Evaluate the performance of Final Disposal Site in Pekalongan city, Surabaya city, Semarang city, Malang city, Surakarta city., Palembang city, Mataram city, Bukit Tinggi city, Serdang Bedagai distric, Bitung city, Amuntai city
- b. Evaluate the pollution condition.
- c. Conduct social/public campaign.
- d. Determine the appropriate and cost-effective system, considering the existing capacity.
- e. Prepare Feasibility Study and DED
- f. Prepare financing scheme
- g. Rehabilitation of final disposal site according to FS and DED

10. Project Cost

<u>Funding Source:</u>	<u>Expenditure:</u>
<ul style="list-style-type: none"> • Foreign Funding <ul style="list-style-type: none"> - Soft Loan : US\$ 68,600,000 - Grant : US\$ 7,000,000 - Export Credit/ <u>Commercial Loan</u> : US\$ 0 - Sub Total : US\$ 75,600,000 • Counterpart Funding <ul style="list-style-type: none"> - Central Government : US\$ 0 - Regional Government : US\$ 0 - State-Owned Enterprise : US\$ 0 - <u>Other</u> : US\$ 0 - Sub Total : US\$ 0 	<ul style="list-style-type: none"> • Foreign Expenditure : US\$ 0 • Local Expenditure : US\$ 75,600,000 <hr/> <p>TOTAL : US\$ 75,600,000</p>
<ul style="list-style-type: none"> - TOTAL : US\$ 75,600,000 	

**State Electricity Company
(PT. PLN)**

1. **Project Title** : Construction for Java – Sumatra Interconnection 500 kV Line (HVDC)
 2. **Duration** : 60 months
 3. **Location** : West Java and South Sumatra
 4. **Executing Agency** : PT. PLN
 5. **Implementing Agency** : PT. PLN
-
-

6. Background and Justification

- a. South Sumatera is considered as the main national energy resource, primarily it has abundant low rank coal which can be most efficiently utilized in mine mouth power plants.
- b. Demand growth of Java-Bali is very high, 9.3% per year, it requires 3.500 MW power generations every year.
- c. There is limited location for building new power plants in Java.
- d. PLN has a plan to engage IPP developers to build mine mouth power plants with capacity of 4x600 MW in Muara Enim and 2x600 MW in Musi Rawas of South Sumatera. The operation date of the project is planned in 2016.
- e. Transferring the output from the mine mouth power plants to Java will require very long distance and large capacity transmission facilities, which only can be realized by 500 kV HVDC line.

7. Priority

Infrastructure

8. Objectives

- a. To utilize untradeable low rank coal in South Sumatera.
- b. To evacuate power from mine mouth power plants to load centers in Java.
- c. To increase the reliability of Java-Bali system and Sumatera system.
- d. To share reserve capacity between Java-Bali and Sumatera.
- e. To reduce production cost of Java-Bali and Sumatera system

9. Activities

- a. 500 kV AC Overhead line (OHL) = 272 km
- b. 500 kV DC Overhead line (OHL) = 494 km
- c. HVDC submarine cables = 40 km
- d. HVDC inverter and converter stations = 3000 MW
- e. 275 kV Overhead line (OHL) = 167 km

10. Project Cost

<u>Funding Source:</u>	<u>Expenditure:</u>
<ul style="list-style-type: none"> • Foreign Funding <ul style="list-style-type: none"> - Soft Loan/ Export Credit/ Commercial Loan : US\$ 400,000,000 - <u>Grant</u> : US\$ 0 - Sub Total : US\$ 400,000,000 • Counterpart Funding <ul style="list-style-type: none"> - Central Government : US\$ 0 - Regional Government : US\$ 0 - State-Owned Enterprise : US\$ 0 - <u>Other</u> : US\$ 0 - Sub Total : US\$ 0 	<ul style="list-style-type: none"> • Foreign Expenditure : US\$ 0 • Local Expenditure : US\$ 400,000,000 <hr/> <p>TOTAL : US\$ 400,000,000</p>
<p>- TOTAL : US\$ 400,000,000</p>	

1. **Project Title** : New Sumatera Bagian Utara Steam Coal Power Plant (SCPP) 2 x 200 MW
2. **Duration** : 36 months
3. **Location** : Pangkalan Susu, North Sumatera
4. **Executing Agency** : PT. PLN
5. **Implementing Agency** : PT. PLN

6. **Background and Justification**

The peak demand in Northern Sumatera system is 1.338 MW in 2008, and is growing by 8,5% per year. The demand is mostly supplied by oil fired power plants, therefore the generation cost is very high. Development of this Pangkalan Susu SCPP will reduce the generation cost substantially.

7. **Priority**

Infrastructure

8. **Objectives**

- a. To fulfill electric power requirement in North Sumatera system with annual growth 8,5%.
- b. To reduce high operation cost.
- c. To anticipate delayed IPP projects.

9. **Activities**

Engineering, Procurement and Construction (EPC).

10. **Project Cost**

<u>Funding Source:</u>	<u>Expenditure:</u>
<ul style="list-style-type: none"> • Foreign Funding <ul style="list-style-type: none"> - Soft Loan/ Export Credit/ Commercial Loan : US\$ 382,500,000 - <u>Grant</u> : US\$ 0 - Sub Total : US\$ 382,500,000 • Counterpart Funding <ul style="list-style-type: none"> - Central Government : US\$ 0 - Regional Government : US\$ 0 - State-Owned Enterprise : US\$ 67,500,000 - <u>Other</u> : US\$ 0 - Sub Total : US\$ 67,500,000 - TOTAL : US\$ 450,000,000 	<ul style="list-style-type: none"> • Foreign Expenditure : US\$ 387,500,000 • Local Expenditure : US\$ 67,500,000 <hr/> <p>TOTAL : US\$ 450,000,000</p>

= REVISED PROPOSALS =

Ministry of Home Affairs

1. **Project Title** : Development and Implementation of Population Administration Information System (SIAK)
 2. **Duration** : 60 months
 3. **Location** : National Wide
 4. **Executing Agency** : Ministry of Home Affairs
 5. **Implementing Agency** : Ministry of Home Affairs
-

6. Background and Justification

The registration of population is essential for having a systematic and efficient organization of all public functions. The registration of population is a source of information providing population data for administrative purposes to a large number of state authorities, such as the offices in charge of immigration, social security, pilgrim services, tax services, and the police.

Other institutions in such fields as family planning, election management, public health and education rely on the provision of accurate and up-to-date population data, too, in order to be able to better direct their policies and services to the needs of the population. Population administration information management shall be directed to ensure the attainment of:

- a. improvement in the quality of population registration and civil registry services;
- b. provision of data for development planning and government services; and
- c. systematic data exchange activities for verification of individual data in public service.

Project Vision

To enable the accurate and secure registration and identification of all Indonesian citizens in order to support an efficient, effective, transparent and accountable public administration, as well as to enhance the national security conditions.

7. Priority

Law, Corruption Eradication, and Bureaucracy Reformation

8. Objectives

The project objectives are those considered to be achieved once the SIAK is implemented and operational.

The major ones are the following:

- a. To develop a comprehensive, accurate, updated and secure national population database at districts/cities, provinces and national level;
- b. Availability of the software and hardware as well as the infrastructures and facilities supporting the SIAK operations;
- c. To build a network system to facilitate population administration information management and integrate every working unit.
- d. To develop a customized software application to provide a complete and accurate platform for population information management.
- e. To distribute accurately and quickly citizens' data and information to related Central and Local Government Institutions as well as the related stakeholders linked to the MoHA network.

- f. To design and implement a flexible and expandable system to foresee the increasing workload and be able to keep up to the technology development.
- g. To provide a true technology transfer towards MoHA officials in order to guarantee the project sustainability.
- h. Increased technical knowledge and skills of the staff in charge of operating the population administration services at the national, provincial and district/city levels;
- i. Completion of the process of socialization as well as operation of the SIAK in population registration, civil registry and population administration information management in all regions in Indonesia.

9. Activities

The major activities to be undertaken are being the following:

- a. Detailed project planning
- b. User requirement analysis
- c. Design and implementation of network infrastructure (WAN & LAN)
- d. Supply, installation and configuration of all hardware equipment, system software and peripherals
- e. Analysis, design, development, testing and installation of the required software application programs
- f. System initialization
- g. Training program
- h. Project management
- i. Technical support, maintenance and warranty program

10. Project Cost

<u>Funding Source:</u>	<u>Expenditure:</u>
<ul style="list-style-type: none"> • Foreign Funding <ul style="list-style-type: none"> - Soft Loan / Export Credit / Commercial Loan : US\$ 250,000,000 - <u>Grant</u> : US\$ 0 - Sub Total : US\$ 250,000,000 • Counterpart Funding <ul style="list-style-type: none"> - Central Government : US\$ 25,000,000 - Regional Government : US\$ 0 - State-Owned Enterprise : US\$ 0 - <u>Other</u> : US\$ 0 - Sub Total : US\$ 25,000,000 	<ul style="list-style-type: none"> • Foreign Expenditure : US\$ 0 • Local Expenditure : US\$ 275,000,000 <hr/> <p>TOTAL : US\$ 275,000,000</p>
<ul style="list-style-type: none"> - TOTAL : US\$ 275,000,000 	

1. **Project Title** : National Program for Community Empowerment – Rural (PNPM Mandiri - Pedesaan)
 2. **Duration** : 36 months
 3. **Location** : All provinces in Indonesia
 4. **Executing Agency** : Ministry of Home Affairs
 5. **Implementing Agency** : Directorate General of Community and Village Empowerment, Ministry of Home Affairs
-

6. Background and Justification

Poverty reduction remains a paramount challenge in Indonesia. Although the number of people living below the poverty line has declined to pre-financial crisis levels, about 110 million “near poor” people continue to live on less than US\$2 a day. Poor households have been benefiting less from growth than wealthier households in recent years. The unemployment rate is also still high, calculated at an estimated 10.9 million people, or about 10.3 percent of the total workforce. These poor and disadvantaged populations are vulnerable to external shocks and could easily fall back into poverty in the event of sickness, a natural disaster, unemployment, or harvest failure. They also have extremely limited access to basic services, such as health, education, housing, capital, and infrastructure.

To promote more broad-based post-recovery growth as one effort to reduce poverty, in August 2006 the Government of Indonesia (GoI) launched the first nationwide poverty reduction program with one of the major pillar is the National Program for Community Empowerment or *Program Nasional Pemberdayaan Masyarakat* (PNPM) Mandiri. This program will become umbrella for all government’s community empowerment program. A number of sectoral programs are linked to this main umbrella in ways that are expected to increase over time.

7. Priority

Poverty and Disparity Alleviation

8. Objectives

To empower Indonesia’s diverse rural communities to be actively participated in development through identifying their own needs and how to fulfill them with the resources they have to improve their welfare.

9. Activities

- a. Community empowerment and provision of facilitators;
- b. Provision of block grant to the community;
- c. Local government capacity building.

10. Project Cost

<u>Funding Source:</u>	<u>Expenditure:</u>
<ul style="list-style-type: none"> • Foreign Funding - Soft Loan : US\$ 570,394,000 - Grant : US\$ 400,000 - Export Credit/ <li style="padding-left: 20px;"><u>Commercial Loan</u> : US\$ 0 - Sub Total : US\$ 570,794,000 • Counterpart Funding - Central Government : US\$ 333,000,000 - Regional Government : US\$ 0 - State-Owned Enterprise : US\$ 0 - <u>Other</u> : US\$ 0 - Sub Total : US\$ 333,000,000 <li style="border-top: 1px solid black;">- TOTAL : US\$ 903,794,000 	<ul style="list-style-type: none"> • Foreign Expenditure : US\$ 0 • Local Expenditure : US\$ 903,794,000 <li style="border-top: 1px solid black;">TOTAL : US\$ 903,794,000

Ministry of Public Works

1. **Project Title** : National Program for Community Empowerment in Urban Area (PNPM Mandiri - Perkotaan)
 2. **Duration** : 36 months
 3. **Location** : All provinces in Indonesia
 4. **Executing Agency** : Ministry of Public Works
 5. **Implementing Agency** : Directorate General of Human Settlement, Ministry of Public Works
-

6. Background and Justification

Poverty reduction remains a paramount challenge in Indonesia. Although the number of people living below the poverty line has declined to before financial crisis levels, which is about 110 million “near poor” people continue to live on less than US\$2 a day. Poor households have been benefiting less from growth than wealthier households in recent years. The unemployment rate is also still high, calculated at an estimated 10.9 million people or about 10.3 percent of the total workforce. These poor and disadvantaged populations are vulnerable to external shocks and could easily fall back into poverty in the event of sickness, a natural disaster, unemployment, or harvest failure. They also have extremely limited access to basic services, such as health, education, housing, capital, and infrastructure.

To promote broader-based post-recovery growth as one effort to reduce poverty, in August 2006 the Government of Indonesia (GOI) launched the nationwide poverty reduction program. One of the major pillars is the National Program for Community Empowerment or *Program Nasional Pemberdayaan Masyarakat (PNPM) Mandiri*. This program will become umbrella for all government’s community empowerment program. A number of sectoral programs are linked to this main umbrella in ways that are expected to increase over time.

7. Priority

Poverty and Disparity Alleviation

8. Objectives

To empower Indonesia’s diverse urban communities to be actively participated in development through identifying their own needs and how to fulfill them with the resources they have to improve their welfare.

9. Activities

- a. Community empowerment and provision of facilitators;
- b. Provision of block grant to the community;
- c. Local government capacity building.

1. Project Cost

<u>Funding Source:</u>		<u>Expenditure:</u>	
• Foreign Funding		• Foreign Expenditure : US\$	0
- Soft Loan	: US\$ 540,188,000	• Local Expenditure : US\$	670,821,000
- Grant	: US\$ 0		
- Export Credit/ <u>Commercial Loan</u>	: US\$ 0		
- Sub Total	: US\$ 540,188,000	TOTAL	: US\$ 670,821,000
• Counterpart Funding			
- Central Government	: US\$ 130,633,000		
- Regional Government	: US\$ 0		
- State-Owned Enterprise	: US\$ 0		
- <u>Other</u>	: US\$ 0		
- Sub Total	: US\$ 130,633,000		
- TOTAL	: US\$ 670,821,000		

Ministry of Transportation

1. **Project Title** : Bandung Urban Railway Transport Development, Electrification
Padalarang - Cicalengka
 2. **Duration** : 60 months
 3. **Location** : West Java
 4. **Executing Agency** : Ministry of Transportation
 5. **Implementing Agency** : Directorate General of Railway, Ministry of Transportation
-

6. Background and Justification

The partial double-track sections of the Jakarta - Bandung railway corridor, i.e. Cikampek - Purwakarta (19 Km), Plered - Cisomang (6,2 Km) and Ciganea - Sukatani (7,2 Km), have been operated since 2005. Nevertheless, the passenger transport volume in the corridor has been decreased up to 40% until now, due to the increasing competition against road transport since the beginning operation of Cipularang toll-road.

To recover from this declining trend, the railways need to improve its product competitiveness in the corridor, inter-alia, by improving the accessibility to its related services at both ends (origin and destination) of its current route. This need to be supported by a relevant study to provide a sound justification first for necessary improvement measures, which may include improvement of transport connectivity or access from/to the station in Bandung city and the surrounding by improving the track layout, adding new stopping points and line electrification of the trunk line between Padalarang - Cicalengka.

The commuter rail lines in Jabotabek area has practically been fully electrified, but in Bandung area there has not been any electrified rail line until now and, therefore, diesel rail cars are normally operated for commuter services and sometimes train rakes are also used for the same, but mainly for local/regional train services.

7. Priority

Infrastructure

8. Objectives

- a. To enhance the quality of urban/commuter railway services in Padalarang Cicalengka line, while improving the connectivity/accessibility of intercity train services from/to Bandung;
- b. To reduce the environmental impacts or pollutions due to emmisions from the roads as well as current operations of rail-vehicles through electrification of the Padalarang - Cicalengka line;
- c. To support the conservation/saving the use of non-renewable energy by the use of electricity in Bandung urban/commuter railway operation;
- d. To relieve the urban road traffic congestions in Bandung and those economic inefficiencies and negative environmental impacts.

9. Activities

- a. Civil Engineering Works
- b. Track
- c. Signals Telecom
- d. Train Stations
- e. Rolling Stock Diesel

10. Project Cost

<u>Funding Source:</u>		<u>Expenditure:</u>	
• Foreign Funding		• Foreign Expenditure : US\$	0
- Soft Loan	:US\$ 157,000,000	• Local Expenditure : US\$	175,000,000
- Grant	:US\$ 0		
- Export Credit/ Commercial Loan	:US\$ 0	TOTAL	: US\$ 175,000,000
- Sub Total	:US\$ 157,000,000		
• Counterpart Funding			
- Central Government	:US\$ 18,000,000		
- Regional Government	:US\$ 0		
- State-Owned Enterprise	:US\$ 0		
- Other	:US\$ 0		
- Sub Total	:US\$ 18,000,000		
- TOTAL	:US\$ 175,000,000		

1. **Project Title** : Procurement Locomotives Diesel Electric
 2. **Duration** : 39 months
 3. **Location** : Java Island
 4. **Executing Agency** : Ministry of Transportation
 5. **Implementing Agency** : Directorate General for Railways, Ministry of Transportation
-

6. Background and Justification

PT. Kereta Api (KA), Persero (Railway Corporation) has four separated railway networks, namely in Java, North Sumatera, West Sumatera and South Sumatera. This project is focused on the Java network. PT. KA (Persero) network on Java Island has an overall length of 4.726 km of which 3.672 km is operational. This has a gauge of 1.067 mm and connects all the major cities across the length and breadth of Java Island. PT. KA (Persero) handles a substantial proportion of passenger traffic and freight traffic.

The main power for carrying out the above traffic is provided by diesel electric and diesel hydraulic locomotives and to a limited extent is carried by diesel hydraulic rail cars and electric multiple unit trains for suburban traffic. The major portion of the traffic and the important traffic is carried out by diesel electric locomotives. As such the focus of this project is on diesel electric locomotives DC/DC type BB-202, CC-201, CC-203 and the latest AC/DC CC-204 manufactured by General Electric, also CC-202 type. There are in all 421 units diesel locomotives of PT. KAI.

The total numbers of operationally ready medium locomotives are 347 units of which 74 units are aged above 30 years with the following details:

- a. condition 50% - 60% : 24 units
- b. condition less than 50% : 50 units.

7. Priority

Infrastructure

8. Objectives

- a. Availability of electric diesel locomotives for transportation of passengers and freight especially in Java island;
- b. Implementation of locomotives ready for operation, instead of old and damaged types of locomotives;
- c. Fulfill the requirement of passengers and goods demand by railway especially during holiday seasons, such as new year, and for coal transportation

9. Activities

Procurement of 30 units locomotives diesel electric

10. Project Cost

<u>Funding Source:</u>		<u>Expenditure:</u>	
• Foreign Funding		• Foreign Expenditure : US\$	51,000,000
- Soft Loan/ Export Credit/ Commercial Loan	: US\$ 51,000,000	• Local Expenditure : US\$	7,650,000
<u>Grant</u>	: US\$ 0	<hr/>	
- Sub Total	: US\$ 51,000,000	TOTAL	: US\$ 58,650,000
• Counterpart Funding			
- Central Government	: US\$ 7,650,000		
- Regional Government	: US\$ 0		
- State-Owned Enterprise	: US\$ 0		
- Other	: US\$ 0		
- Sub Total	: US\$ 7,650,000		
<hr/>			
- TOTAL	: US\$ 58,650,000		

**Local Government of Nanggroe
Aceh Darussalam Province**

1. **Project Title** : Seulawah Geothermal Working Area Infrastructure
 2. **Duration** : 24 months
 3. **Location** : Seulawah, Aceh Besar Regency, NAD Province
 4. **Executing Agency** : Local Government of Nanggroe Aceh Darussalam (NAD) Province
 5. **Implementing Agency** : Local Government of Nanggroe Aceh Darussalam (NAD) Province
-

6. **Background and Justification**

Aceh has been facing a difficult time after the Tsunami of 2004, but has made substantial progress in the wake of the international support. A major challenge for the development of the province remains the electricity supply, which in part is planned to utilize in the future geothermal energy, initially focusing on the Seulawah field near Banda Aceh. Due to the special autonomy of NAD Province, the development of the Seulawah field is under the authority of the Governor of NAD.

Base on of several studies and evaluations, it was found that a first 2 x 20 MW power plan using steam and additional 3 to 5 MW binary power plant using brine would be feasible to be implemented in the near future in Aceh. Electricity is fundamental infrastructure for the economic development of an area. The Tsunami has destroyed power plants in Aceh and as part of the reconstruction efforts, only a minimal provision of electricity could be realized. Geothermal energy provides not only an opportunity to boost the sustainable development of the province, but allows doing this CO₂ neutral, thus, giving an example for development without the emission of harmful climate gases.

Despite rising prices of fossil fuels, the costs and risks for the establishment of such a geothermal power plant is still geothermal resource and limit the interest of purely commercial endeavors. Consequently, the Regional Government of NAD would appreciate financial support for the project in order to allow the rapid implementation of the infrastructure for the Geothermal Seulawah Power Plant.

7. **Priority**

Infrastructure

8. **Objectives**

To base the electricity supply of the province on a sustainable and environmentally sound basis. Geothermal energy is capable to provide base load power without CO₂ emissions. It is a locally available resource, saving transport costs while eliminating logistics problems associated with transportation. It is an ideal way to eventually replace the existing diesel power plant. Furthermore it should lead to a long term cost effective electricity supply independent of international fuel prices, thus providing essential infrastructure to attract industry.

9. Activities

- a. complete feasibility study;
- b. drilling of 7 production wells and 2 re-injection wells;
- c. installation of the needed infrastructure such as an unloading jetty near to site, roads, re-enforcement of bridges;
- d. installation of project infrastructure such as an administration building, steam collection and distribution systems;
- e. installation of a small geothermal binary demonstration power plant.

10. Project Cost

<u>Funding Source:</u>	<u>Expenditure:</u>
<ul style="list-style-type: none"> • Foreign Funding <ul style="list-style-type: none"> - Soft Loan/ Export Credit/ Commercial Loan : US\$ 72,800,000 - <u>Grant</u> : US\$ <u>9,100,000</u> - Sub Total : US\$ 81,900,000 • Counterpart Funding <ul style="list-style-type: none"> - Central Government : US\$ 0 - Regional Government : US\$ 74,000,000 - State-Owned Enterprise : US\$ 0 - <u>Other</u> : US\$ <u>2,500,000</u> - Sub Total : US\$ 76,500,000 	<ul style="list-style-type: none"> • Foreign Expenditure : US\$ 0 • Local Expenditure : US\$ 158,400,000 <hr/> <p>TOTAL : US\$ 158,400,000</p>
<p>- TOTAL : US\$ 158,400,000</p>	

State Electricity Company
(PT. PLN)

1. **Project Title** : Java-Bali Submarine Cable 150 kV Circuit 3 & 4
2. **Duration** : 24 months
3. **Location** : East Java and Bali
4. **Executing Agency** : PT. PLN
5. **Implementing Agency** : PT. PLN

6. Background and Justification

- a. Bali is a tourism region that needs a reliable supply of electricity.
- b. Load demand of Bali grows at very high rate, 12,2% per year.
- c. All existing power plants in Bali use oil fuel so the production cost is very high.
- d. It is an interim solution to solve electricity crisis in Bali.

7. Priority

Infrastructure

8. Objectives

- a. To prevent short term power shortages in Bali;
- b. To increase supply capacity from Java to Bali;
- c. To increase reserve margin in Bali; and
- d. To reduce production cost in Bali.

9. Activities

- a. 2 circuits of 150 kV submarine cables @ 100 MW = 4 km route;
- b. Rock dumping (to provide mechanical protection against strong Seadrift, anchors); and
- c. 150 kV overhead line in Java and Bali 2 circuits = 10 km route.

10. Project Cost

<u>Funding Source:</u>	<u>Expenditure:</u>
<ul style="list-style-type: none"> • Foreign Funding <ul style="list-style-type: none"> - Soft Loan/ Export Credit/ Commercial Loan : US\$ 55,560,000 - <u>Grant</u> : US\$ 0 - Sub Total : US\$ 55,560,000 • Counterpart Funding <ul style="list-style-type: none"> - Central Government : US\$ 0 - Regional Government : US\$ 0 - State-Owned Enterprise: US\$ 6,170,000 - <u>Other</u> : US\$ 0 - Sub Total : US\$ 6,170,000 	<ul style="list-style-type: none"> • Foreign Expenditure : US\$ 0 • Local Expenditure : US\$ 61,730,000 <hr/> <p>TOTAL : US\$ 61,730,000</p>
<ul style="list-style-type: none"> - TOTAL : US\$ 61,730,000 	

- 1. Project Title** : Muara Tawar Add on Block 2, 3, 4 Combined Cycle Power Plant (CCPP) 825 - 1200 MW
 - 2. Duration** : 30 months
 - 3. Location** : West Java Province
 - 4. Executing Agency** : PT. PLN
 - 5. Implementing Agency** : PT. PLN
-

6. Background and Justification

The electricity demand in Java-Bali system is projected to grow at 9.3% per year for the period between 2008 and 2018. In order to meet the growing demand, it requires additional capacity of 3.500 MW per year.

The existing Muara Tawar Geo Thermal Power Plan (GTPP) Block 2, 3 and 4 are operated as open cycle mode. This mode of operation is not efficient, as much of the heat is released to the atmosphere. Considering high oil price, the value of the heat is also high and therefore it is economically viable to capture and use the heat.

Muara Tawar Block 2, 3 and 4 Add-on Project will add the steam cycle process to the existing plant by recovering the heat from the exhaust gas and using it to produce steam. The steam will be used to drive the steam turbine generator and produce the additional power. The additional power of 1200 MW is achieved while increasing the plant efficiency.

This project is a strategic solution to obtain additional power capacity and to partially meet the growth of electricity demand, while increasing the operation efficiency of Muara Tawar plant, provided gas supply is available.

7. Priority

Infrastructure

8. Objectives

- a. To add 1200 MW of power close to the load center in short implementation period;
- b. To improve the efficiency, reliability and availability of power supply; and
- c. To utilize existing asset (existing Geo Thermal foundation, auxiliary system/common facilities).

9. Activities

- a. Basic Design
- b. Preparation of tender document
- c. Procurement of equipment
- d. Engineering, design and supervision
- e. Construction and Installation
- f. Testing and commissioning.

10. Project Cost

<u>Funding Source:</u>	<u>Expenditure:</u>
<ul style="list-style-type: none"> • Foreign Funding - Soft Loan/ Export Credit/ Commercial Loan :US\$ 850,000,000 - <u>Grant</u> :US\$ 0 - Sub Total :US\$ 850,000,000 	<ul style="list-style-type: none"> • Foreign Expenditure : US\$ 0 • Local Expenditure : US\$ 1,000,000,000
<ul style="list-style-type: none"> • Counterpart Funding - Central Government :US\$ 0 - Regional Government :US\$ 0 - State-Owned Enterprise:US\$ 150,000,000 - <u>Other</u> :US\$ 0 - Sub Total :US\$ 150,000,000 	<hr/> <p>TOTAL : US\$ 1,000,000,000</p>
<hr/> <p>- TOTAL :US\$ 1,000,000,000</p>	

1. **Project Title** : Rehabilitation and Modernization of Paiton SPP 1&2 (2x400 MW)
2. **Duration** : 24 months
3. **Location** : Java Island
4. **Executing Agency** : PT. PLN
5. **Implementing Agency** : PT. PLN

6. **Background and Justification**

The performance of Paiton Small Power Producer (SPP) unit #1 and #2 has so degraded that the turbine and pulverizes need to be rehabilitated. The control system also needs to be modernized.

7. **Priority**

Infrastructure

8. **Objectives**

To increase power plant reliability and efficiency

9. **Activities**

- a. Replacement of turbine blades, diaphragms, packing and turbine peripheral;
- b. Replacement of boiler pulverizes;
- c. Machining of turbine outer casing; and
- d. Life time assessment of turbine and generator

10. **Project Cost**

<u>Funding Source:</u>	<u>Expenditure:</u>
<ul style="list-style-type: none"> • Foreign Funding <ul style="list-style-type: none"> - Soft Loan/ Export Credit/ Commercial Loan : US\$ 41,100,000 - <u>Grant</u> : US\$ 0 - Sub Total : US\$ 41,100,000 • Counterpart Funding <ul style="list-style-type: none"> - Central Government : US\$ 0 - Regional Government : US\$ 0 - State-Owned Enterprise: US\$ 7,250,000 - <u>Other</u> : US\$ 0 - Sub Total : US\$ 7,250,000 	<ul style="list-style-type: none"> • Foreign Expenditure : US\$ 41,100,000 • Local Expenditure : US\$ 7,250,000 <hr/> <p>TOTAL : US\$ 48,350,000</p>
<hr/> <ul style="list-style-type: none"> - TOTAL : US\$ 48,350,000 	

1. **Project Title** : Rehabilitation and Modernization of Saguling HEPP (4 x 178 MW)
2. **Duration** : 24 months
3. **Location** : West Java Province
4. **Executing Agency** : PT. PLN
5. **Implementing Agency** : PT. PLN

6. **Background and Justification**

The operation of Saguling Hydro Electric Power Plan (HEPP) is constrained by deterioration of turbine governor system and cooling system.

7. **Priority**

Infrastructure

8. **Objectives**

To increase power plant reliability

9. **Activities**

- a. Replacement of turbine governor.
- b. Cooling system pipes coating

10. **Project Cost**

<u>Funding Source:</u>	<u>Expenditure:</u>
<ul style="list-style-type: none"> • Foreign Funding <ul style="list-style-type: none"> - Soft Loan/ Export Credit/ Commercial Loan : US\$ 13,380,000 - <u>Grant</u> : US\$ 0 - Sub Total : US\$ 13,380,000 • Counterpart Funding <ul style="list-style-type: none"> - Central Government : US\$ 0 - Regional Government : US\$ 0 - State-Owned Enterprise: US\$ 2,360,000 - <u>Other</u> : US\$ 0 - Sub Total : US\$ 2,360,000 	<ul style="list-style-type: none"> • Foreign Expenditure : US\$ 13,380,000 • Local Expenditure : US\$ 2,360,000 <hr/> <p>TOTAL : US\$ 15,740,000</p>
<ul style="list-style-type: none"> - TOTAL : US\$ 15,740,000 	

1. **Project Title** : Scattered Transmission and Sub-Station in Indonesia
2. **Duration** : 36 months
3. **Location** : West Java Province
4. **Executing Agency** : PT. PLN
5. **Implementing Agency** : PT. PLN

6. Background and Justification

- a. Electricity demand growth in Indonesia is very high, 9.69% per-year. Energy sale in 2008 is 128.9 TWh and will increase to 325.2 TWh in 2018.
- b. In order to avoid oil consumption and to reduce generation cost, PLN have been constructing 10.000 MW coal fired power plant as a fast track projects.
- c. In line with the development of the fast track projects, it is required to develop the associates transmission line and substation.

7. Priority

Infrastructure

8. Objectives

- a. To evacuate power output of the 10.000 MW project to load center;
- b. To meet the high growth of electricity demand;
- c. To increase reliability of supply;
- d. To reduce oil consumption for power generation;
- e. To reduce the electricity production cost; and
- f. To increase the electricity efficiency.

9. Activities

Development of transmission line and substation

10. Project Cost

<u>Funding Source:</u>	<u>Expenditure:</u>
<ul style="list-style-type: none"> • Foreign Funding <ul style="list-style-type: none"> - Soft Loan/ Export Credit/ Commercial Loan : US\$ 500,000,000 - <u>Grant</u> : US\$ 0 - Sub Total : US\$ 500,000,000 • Counterpart Funding <ul style="list-style-type: none"> - Central Government : US\$ 0 - Regional Government : US\$ 0 - State-Owned Enterprise: US\$ 0 - <u>Other</u> : US\$ 0 - Sub Total : US\$ 0 	<ul style="list-style-type: none"> • Foreign Expenditure : US\$ 500,000,000 • Local Expenditure : US\$ 0
<p>TOTAL : US\$ 500,000,000</p>	<p>TOTAL : US\$ 500,000,000</p>

PT. PERTAMINA

1. **Project Title** : Ekspansi Lahendong Unit 5 & 6 (2x20 MW)
2. **Duration** : 48 months
3. **Location** : North Sulawesi Province
4. **Executing Agency** : PT. PERTAMINA (Persero)
5. **Implementing Agency** : PT. PERTAMINA (Persero)

6. Background and Justification

To optimize the local geothermal potential of more than 3000 MW, which is renewable and environmental friendly within Lahendong-North Sulawesi. The project is directed to fulfill the electricity needs due to consumption increment 9-10% annual and at the same time to reduce oil dependencies which reserve is being depleted and raising its price. The project is in accordance with the government geothermal development road map up to 2020 and the oil subsidizes withdrawal policy. As a richest country in geothermal energy (~27 GW, 40% from global resource and reserve), geothermal contribution within national scale with the additional target 530MW in 2012.

7. Priority

Infrastructure

8. Objectives

- a. To supply the electric power at the capacity of 2x20MW
- b. To increase the geothermal contribution to the national energy mix

9. Activities

- a. Preparation of well pad, road, and cellar
- b. Drilling production well and re-injection wells
- c. Well testing
- d. Steam gathering system and power plant facility
- e. Power plant commissioning

10. Project Cost

<u>Funding Source:</u>	<u>Expenditure:</u>
<ul style="list-style-type: none"> • Foreign Funding <ul style="list-style-type: none"> - Soft Loan/ Export Credit/ Commercial Loan : US\$ 108,250,000 - Grant : US\$ 0 - Sub Total : US\$ 108,250,000 • Counterpart Funding <ul style="list-style-type: none"> - Central Government : US\$ 0 - Regional Government : US\$ 0 - State-Owned Enterprise: US\$ 0 - Other : US\$ 0 - Sub Total : US\$ 0 	<ul style="list-style-type: none"> • Foreign Expenditure : US\$ 0 • Local Expenditure : US\$ 108,250,000 <hr/> <p>TOTAL : US\$ 108,250,000</p>
<ul style="list-style-type: none"> - TOTAL : US\$ 108,250,000 	

1. **Project Title** : Lumut Balai Unit 1 & 2 (2x55 MW)
2. **Duration** : 48 months
3. **Location** : South Sumatera Province
4. **Executing Agency** : PT. PERTAMINA (Persero)
5. **Implementing Agency** : PT. PERTAMINA (Persero)

6. Background and Justification

To optimize the local geothermal potential of >600MW, which is renewable and environmental friendly within Lumutbalai, South Sumatera. The project is directed to fulfill the electricity needs due to consumption increment 9-10% annual and at the same time to reduce oil dependencies which reserve is being depleted and raising its price. The project is in accordance with the government geothermal development road map up to 2020 and the oil subsidizes withdrawal policy. As a richest country in geothermal energy (~27 GW, 40% from global resource and reserve), geothermal contribution within national scale with the additional target 530MW in 2012.

7. Priority

Infrastructure

8. Objectives

- a. To supply the electric power at the capacity of 2x55MW.
- b. To increase the geothermal contribution to the national energy mix

9. Activities

- a. Preparation of well pad, road, and cellar
- b. Exploration, production well and injection well drillings
- c. Well testing
- d. Construction of Steam gathering system (production facility) and power plant facility
- e. Power plant Commissioning

10. Project Cost

<u>Funding Source:</u>	<u>Expenditure:</u>
<ul style="list-style-type: none"> • Foreign Funding <ul style="list-style-type: none"> - Soft Loan/ Export Credit/ Commercial Loan : US\$ 303,550,000 - <u>Grant</u> : US\$ 0 - Sub Total : US\$ 303,550,000 • Counterpart Funding <ul style="list-style-type: none"> - Central Government : US\$ 0 - Regional Government : US\$ 0 - State-Owned Enterprise: US\$ 0 - <u>Other</u> : US\$ 0 - Sub Total : US\$ 0 	<ul style="list-style-type: none"> • Foreign Expenditure : US\$ 0 • Local Expenditure : US\$ 303,550,000
<ul style="list-style-type: none"> - TOTAL : US\$ 303,550,000 	<p style="text-align: right;">TOTAL : US\$ 303,550,000</p>

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- 1. **Project Title** : Lumut Balai Unit 3 & 4 (2x55 MW)
 - 2. **Duration** : 48 months
 - 3. **Location** : South Sumatera Province
 - 4. **Executing Agency** : PT. PERTAMINA (Persero)
 - 5. **Implementing Agency** : PT. PERTAMINA (Persero)
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6. Background and Justification

To optimize the local geothermal potential of >600MW, which is renewable and environmental friendly within Lumutbalai, South Sumatera. The project is directed to fulfill the electricity needs due to consumption increment 9-10% annual and at the same time to reduce oil dependencies which reserve is being depleted and raising its price. The project is in accordance with the government geothermal development road map up to 2020 and the oil subsidizes withdrawal policy. As a richest country in geothermal energy (~27 GW, 40% from global resource and reserve), geothermal contribution within national scale with the additional target 530MW in 2012.

7. Priority

Infrastructure

8. Objectives

- a. To supply the electric power at the capacity of 2x55MW.
- b. To increase the geothermal contribution to the national energy mix

9. Activities

- a. Preparation of well pad, road, and cellar
- b. Exploration, production well and injection well drillings
- c. Well testing
- d. Construction of steam gathering system (production facility) and power plant facility
- e. Power plant commissioning

10. Project Cost

<u>Funding Source:</u>	<u>Expenditure:</u>
• Foreign Funding	• Foreign Expenditure : US\$ 0
- Soft Loan/ Export Credit/ Commercial Loan : US\$ 300,400,000	• Local Expenditure : US\$ 300,400,000
- Grant : US\$ 0	TOTAL : US\$ 300,400,000
- Sub Total : US\$ 300,400,000	
• Counterpart Funding	
- Central Government : US\$ 0	
- Regional Government : US\$ 0	
- State-Owned Enterprise: US\$ 0	
- Other : US\$ 0	
- Sub Total : US\$ 0	
- TOTAL : US\$ 300,400,000	

1. **Project Title** : Ulubelu Unit 3 & 4 (2x55 MW)
2. **Duration** : 48 months
3. **Location** : Lampung Province
4. **Executing Agency** : PT. PERTAMINA (Persero)
5. **Implementing Agency** : PT. PERTAMINA (Persero)

6. Background and Justification

To optimize the local geothermal potential of >600MW, which is renewable and environmental friendly within Lampung Province. The project is directed to fulfill the electricity needs due to consumption increment 9-10% annual and at the same time to reduce oil dependencies which reserve is being depleted and raising its price. The project is in accordance with the government geothermal development road map up to 2020 and the oil subsidizes withdrawal policy. As a richest country in geothermal energy (~27 GW, 40% from global resource and reserve), geothermal contribution within national scale with the additional target 530MW in 2012.

7. Priority

Infrastructure

8. Objectives

- a. To supply the electric power at the capacity of 2x55MW.
- b. To increase the geothermal contribution to the national energy mix

9. Activities

- a. Preparation of well pad, road, and cellar
- b. Exploration and development drillings
- c. Engineering design, procurements, and construction of the power plants
- d. Construction of steam gathering system (production facility) and power plant facility
- e. Power plant commissioning

10. Project Cost

<u>Funding Source:</u>	<u>Expenditure:</u>
<ul style="list-style-type: none"> • Foreign Funding <ul style="list-style-type: none"> - Soft Loan/ Export Credit/ Commercial Loan : US\$ 295,400,000 - <u>Grant</u> : US\$ 0 - Sub Total : US\$ 295,400,000 • Counterpart Funding <ul style="list-style-type: none"> - Central Government : US\$ 0 - Regional Government : US\$ 0 - State-Owned Enterprise: US\$ 0 - <u>Other</u> : US\$ 0 - Sub Total : US\$ 0 	<ul style="list-style-type: none"> • Foreign Expenditure : US\$ 0 • Local Expenditure : US\$ 295,400,000
<ul style="list-style-type: none"> - TOTAL : US\$ 295,400,000 	<p style="text-align: right;">TOTAL : US\$ 295,400,000</p>