

GIZ-PAKLIM

CDIA

Existing Local and National Available
Financing Instruments for Mitigation
Measures in Indonesia

Final Report

20 June 2011

giz Deutsche Gesellschaft
für Internationale
Zusammenarbeit (GIZ) GmbH





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Prepared for:

Deutsche
Gesellschaft für
Internationale
Zusammenarbeit
(GIZ) GmbH

City Development of
Asia (CDIA)

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ABBREVIATIONS

APBD	<i>Anggaran Pendapatan dan Belanja Daerah</i> (Local Budget)
APBN	<i>Anggaran Pendapatan dan Belanja Nasional</i> (National Budget)
BAPPENAS	National Development Planning Agency
BAU	Business as Usual
CDM	Clean Development Mechanism
CSR	Corporate Social Responsibility
DAU	<i>Dana Alokasi Umum</i>
DAK	<i>Dana Alokasi Khusus</i>
DNPI	<i>Dewan Nasional Perubahan Iklim</i> (National Council on Climate Change)
DPR	<i>Dewan Perwakilan Rakyat</i> (People representative Council)
DPRD	<i>Dewan Perwakilan Rakyat Daerah</i> (People representative Council)
MEMR	Ministry of Energy and Mineral Resources
GDP	Gross Domestic Product
GHG	Green House Gases
GOI	Government of Indonesia
GIZ	<i>Deutsche Gesellschaft für Internationale Zusammenarbeit</i> (German International Cooperation)
IDR	Indonesian Rupiah (Indonesian Currency)
LUCF	Land Use Change and Forestry
LULUCF	Land Use, Land Use Change and Forestry
MRV	Measureable, Reportable, and Verifiable
PAKLIM	<i>Program Advise Kebijakan untuk Perlindungan Lingkungan Hidup dan Perubahan Iklim</i> (Policy Advise for Environment and Climate Change)
RAN-GRK	<i>Rencana Aksi Nasional Gas Rumah Kaca</i> (National Action Plan for Greenhouse Gases)
RAD-GRK	<i>Rencana Aksi Daerah Gas Rumah Kaca</i> (Regional Action Plan for Greenhouse Gases)



SNC

Second National Communication

UNFCCC

United Nations Framework Convention on Climate Change



1. INTRODUCTION

1.1 CLIMATE CHANGE AND CITIES

In 2010, 50% of the world population lived in cities and it was projected that between 2010 and 2020 urban population would reach 95% (about 766 million) of the total global resident of which 632 million would be located in developing countries. Rapid urbanisation in developing countries along with uncontrolled population growth has created concentration of slum areas and informal settlements. Between 2000 and 2010, the number of slum inhabitants in developing countries increased from 767 million to 828 million and this figure might reach 889 million by 2020. These urban areas are least equipped to deal with the threat of climate change and are often lacking capacities in governance, infrastructure, economic and social equity (UNHABITAT, 2011). To date, 54% of Indonesia's population are situated in the urban areas, and in 2025 this will increase to 68% (Institute of Demography UI, 2010). Development of urban areas is concentrated in Java, resulting in heavy urbanization to Java where 60% of Indonesia's urban population is located.

As industrial, economic and social activities are linked with trends in urbanisation and population concentration, it is understandable that currently cities and towns contribute significantly to global anthropogenic GHG emissions, namely about 40 to 70 percent. By 2030 over 80 per cent of the increase in global annual energy demand above 2006 levels will come from cities in developing countries. The effects of urbanization and climate change pose a significant threat to global environment in terms of quality of life, economic and social stability.

Nonetheless, the urbanization also offers opportunities in tackling climate change issues through development of cohesive mitigation and adaptation strategies. Taking into account cities as centres for economic and industrial activities, and political settings, the populations, enterprises and authorities of urban centres will be fundamental players in developing climate change strategies ((UNHABITAT, 2011).

Consistent urban policies with the national target to reduce GHG emission and with 'pro-growth, pro-poor, and pro-job' development objective will ensure city development in Indonesia becomes part of the solution. City authority is then in the unique position to design and implement response measures to climate change.

1.2 CLIMATE CHANGE FINANCE

In December 2010, The United Nations Framework Convention on Climate Change (UNFCCC) Conference of Parties (COP) in Cancún has reinforced back the limitation of global temperature increase to 2⁰ Celcius or lower. The COP also called for urgent action since the current level of climate change mitigation action globally is insufficient to meet the 2⁰ Celcius target. Thus, to further boost mitigation activities and support developing countries in addressing climate change impacts as well as to meet the 2⁰ C stabilisation pathway, developed countries have restated their commitment to mobilise US \$100 billion for climate change mitigation and adaptation activities, every year from 2020. However, the modalities and characteristics of providing this funding of US\$ 100 billion per year have not been defined yet.

The term, 'climate financing' usually comprises financial flows for reducing emissions through mitigation measures as well as climate change adaptation measures. Climate financing can be viewed, either as only the flows from developed to developing countries or flows within and between all countries (Van Melle et.al, 2011).



In the absence of clear modalities and sourcing the funding for stabilisation pathways, an important option could be to use limited public resources to leverage low-carbon investment. The low carbon investment in terms of could be materialised through GHG mitigation projects and activities vary from feasibility study, project capital expenditure and operation and maintenance. Developing countries could look into their existing public resources and mainstream climate change issues into development planning to ensure that the existing public financing is geared towards low carbon development. The High level Advisory Group on Climate Change Financing (referred herein after as “AGF”) in its final report also concludes that the concept of using public financing to attract greater private finance for mitigation and/or adaptation activities is increasingly accepted by the international community (United Nations, 2010).

In a developing country such as Indonesia, development budget is limited and the bureaucracy is not effective (BAPPENAS, 2010) although the very essence of fiscal balance is the freedom for cities/district to spend their budget based on their specific development priority. The city/local government spends about 75% of its budget for routine expenditure (spending for government officials’ salary, office supplies). Thus, this does not leave much for development, and the limited fund for development is compete with other development priority (e.g. education program, housing, health program, etc.) The question then for policy makers is how to effectively use the limited budget at the local level to support the national GHG emission reduction targets, and how to make use of existing or potentially available finance option to stimulate mitigation action at the local level.

This study aims at identify existing and possible financial options for mitigation action at the city/district level by the local government In Indonesia. The work consists of the identification of the appropriate financing options based on the existing practice in environmental management, as well as recommendation of other possible options.

1.3 INTRODUCTION TO MITIGATION MEASURES

To further implement and concretize the president’s statement on the greenhouse gas emission reduction target of 26% through domestic action by 2020, the Indonesian Climate Change Sectoral Roadmap (Bappenas, 2010) was developed to identify key mitigation and adaptation opportunities in Indonesia. This Roadmap is further detailed into National Action Plan on Greenhouse Gas Emission (NAP-GHG), which is currently under finalisation, where activities that directly and indirectly would reduce greenhouse gas emissions according national medium and long-term planning are highlighted.

Project options in relevant sectors to be implemented at cities/district level: Another study has been conducted under PAKLIM to identify the realistic project options to tackle climate change at cities level in Central and East Java (Kenihans and Firman et al., 2010). The identification of options consider the prioritized sectors in the ICCSR and, most notably, the analysis of examples of international projects in cities by taking into account the project cost, cost effectiveness and implementation timeframe. Table 1.1 provides a summary of identified mitigation options at cities/district levels based on the study in Central and East Java (Kenihans and Firman et al., 2010), which is validated with the relevant core activities per draft NAP-GHG. This illustrates that most identified activities in the study correspond to core activities of NAP-GHG.



Table 1.1: Identified Mitigation Options at Cities/District levels in Central and East Java (Kenihans and Firman et.al., 2010), and Corresponding Relevant Activities per draft NAP-GHG

Identification on Mitigation Options to Tackle Climate Change	Core Activities for mitigation Actions as per draft NAP GHG
Source (Kenihans and Firman et.al)	
Waste	
Community composting	Core activity No. 2, Waste Sector: Development of, Landfill waste disposal (TPA), Integrated waste management of 3R.
Organic waste gasification	Core activity No. 4, Energy and transportation Sector: Biogas Utilization
Energy	
Improving the efficiency of street lighting	Core activity No. 2, Energy and Transportation Sector: Low Energy Lamp Program
Building energy auditing and retrofit support	Core activity No. 1, Energy and Transportation Sector: Energy Audit, targeting 1003 objects (building and industries)
Transport	
Advanced traffic control systems	The NAP-GHG does not include traffic control system as core activity. Nevertheless, application of traffic impact control is included as core activity No. 11, Energy and Transportation Sector

The level of involvement and intervention that could be exerted by local government to facilitate the implementation of GHG reduction in these prioritized sectors would vary. Taking into account the importance of the sectors toward local development and to the local/regional community and the relevance to the level of authority and responsibilities at local government level, as well as core activities listed in the NAP-GHG, the sectors that would likely to require significant involvement of the local government are listed as follows:

- Waste:
 - o 3R waste management
 - o Composting/centralized composting plant
 - o Replace open dumping to sanitary landfill system
 - o Waste-to-energy in sanitary landfill system (biogas utilization)
- Transport:
 - o Transport modal shifting
 - o Utilisation of less intensive carbon fuel
 - o Public awareness campaign
- Energy:
 - o Energy Efficiency in building for cities



- Efficient Street lighting
- Spatial planning/Land-use:
 - Urban greening

1.4 REPORT STRUCTURE

This Final report consists of Five (5) chapters: Introduction in Chapter 1, followed by methodology in Chapter 2. Chapter 3 highlight the mitigation measures to be explored in cities as well as current financing sources of mitigation actions based on findings of the workshop. Chapter 4 presents possible financing sources for mitigation actions that could be tap by cities/districts, including the recent initiatives currently being developed. Chapter 5 ends this report with conclusions and recommendations.



2. METHODOLOGY

2.1 APPROACH OF THE STUDY

Top-down approach is conducted by literature review to look at the national level plan on climate change issues and its possible financing sources, and collection of information on existing regulation to stimulate mitigation action, also information on available financing source, mechanism and policies. While the bottom-up approach is conducted through workshop and interviews to gauge the practical understanding and practice on existing financing instruments at the local level.

The approach of the study is detailed into the following tasks:

1. Data Gathering Through Literature Review

Literature review is conducted to:

- highlight the proposed mitigation actions relevant at the Local level (cities/regencies);
- identify the existing and possible financing sources based on the review on the existing fiscal/budgetary instruments policy/regulatory framework (UU, PP, etc) which is applicable to local government;
- obtain information on possible financing sources for climate change mitigation action, the criteria and procedures that could be accessed for the local government through the national government such as ICCTF, grants and loan on particular programs that needs to be channeled through ministries.

The types of literatures includes: Draft National Action Plan on GHG Emission Reduction (RAN-GRK), ICCSR, DNPI Abatement Cost, Literatures on Financing mechanism at sub national level, related regulations (UU 32/2004 on National and Sub-national Level Authority), UU 32/2009 on Environmental Protection and Management Planning.

2. Workshop and Interview at Local Level

Workshops were conducted in Central Java and East Java attended by the representative of the relevant institutions at the provincial level and district/cities level which would and could be involved in climate change mitigation actions (environmental offices and relevant energy, transport and public works offices at provincial and district level). The theme of the workshops was extended to financing of general environmental measures since it was understood that the level of awareness of climate change mitigation/adaptation actions at local level might not be prominent.

The objective of the workshop and interview is to:

- obtain information on programs on environmental measures at the local level, particularly those relevant to tackle climate change issues;
- confirm the program and planning at the local level which would be relevant to climate change mitigation actions
- obtain information on the current financing sources/fiscal instruments used to finance the currently on-going environmental measures (review the existing budget capacity)



- identify the existing possible financing sources which have not yet been widely used or explored by the local government

Table 2.1 shows the district/cities attending the workshops. Representatives from Central and East Java provinces also attended the workshops. A questionnaire containing set of questions related to information required above was distributed during the workshops to the local level. Minutes of Meeting during workshop and interview is given in appendix B and C.

Table 2.1 District/Cities attending the workshops and responded to questionnaires

Provinces	Districts/Cities
Central Java	Karanganyar District, Cilacap District, Kebumen District, Pati District, Kendal District, Tegal District, Kendal District, Semarang City, Pekalongan City, Magelang City
East Java	Lamongan District, Malang District, Probolinggo City, Surabaya City, Pasuruan City, Mojokerto City

Interview is carried out with BLH Province Jawa Timur, BLH Province Jawa Tengah, BAPPEDA Province Jawa Timur, BAPPEDA Province Jawa Tengah, Office of Energy and Mineral Resources (Dinas) Province Jawa Tengah, Office of Public Works Province Jawa Tengah.

3. Attendance at Other Meeting

Attendance on the technical meeting of the Association of City Government (Asosiasi Pemerintah Kota Seluruh Indonesia, APEKSI): APEKSI recently organised a technical meeting on “the Financing Sources and Techniques for Local Development”. This meeting provides insights on local financing sources and the issues on funding mobilisation.

4. Interview at the National Level

Interview at the National level is conducted with the following institutions:

- PIP (Indonesia Investment Unit), Ministry of Finance
- Fiscal Policy Office, Ministry of Finance
- Indonesian Climate Change Trust Fund (ICCTF) secretariat, Bappenas
- Ministry of Public Works, Directorate General Cipta Karya
- Ministry of Energy and Mineral Resources, Directorate General of New and Renewable Energy and Energy Conservation
- World Bank Office Jakarta
- kfW
- (Ministry of Industry)



The objective of the interview at the national level is to:

- Share the findings with the national institutions on findings at the local level regarding current financing sources/fiscal instruments used to finance the currently on-going environmental measures including climate change mitigation actions
- Obtain more detailed information on the program and planning at the national level/ministries which would be relevant to climate change mitigation actions, particularly on programs that could be accessed by the local government.

5. Assessment/Analysis

Based on data and information gathered through literature review, workshop and interviews, analysis is carried out to:

- assess the fiscal and budgetary instruments available in the local level and evaluate the modalities and procedure, including evaluation of the existing policies, of channelling local government financing through those instruments to enable the implementation of climate change mitigation plan.
- identify the appropriate existing instruments and the possible budget to suit the particular climate change mitigation/adaptation actions.
- identify other financing instrument options possible which may be combined with the existing instruments. e.g., facilitation of risk mitigation on investment by the government or provision of technical guidance to enable local government mainstreaming climate change mitigation actions into their regional plan.



3. CLIMATE CHANGE MITIGATION MEASURES AT CITIES/DISTRICT LEVEL

This chapter summarizes the existing national planning on climate change mitigation actions and the validation with identified relevant possible climate change mitigation actions at cities/district level based on the findings from workshop and interview conducted in East and Central Java.

3.1 CITIES/DISTRICT AWARENESS ON CLIMATE CHANGE ACTIONS

Local government awareness on climate change action: For most cities and districts, targets and activities on environmental measures are led by the environmental offices (*kantor*) or environmental agencies (*badan*)¹ and are delineated in the Strategic Planning (*Rencana Strategis, Renstra*) at provincial and cities/districts level. Referring to Decentralisation Law No 32 of 2004 and its implementation regulations (*peraturan pemerintah, PP*), the provincial level task is mainly facilitating and providing guidance (capacity building for district and cities) to the development at the district/cities level while the real implementation is executed at district/cities level. Similarly, the Renstra of environmental agency at East Java and Central Java provinces outline the programs and plans related to environmental measures to be implemented at the local level. Most of these measures are mostly related to environmental issues in general such as waste and air quality management, river and ecosystem conservation, enforcement of environmental impact assessment (AMDAL). For example, the RENSTRA of East Java environmental agency (BLH) includes the program to support the education curriculum at primary school to increase their environmental awareness, and to supervise the AMDAL implementation at district and cities level (BLH Jawa Timur, 2010).

Climate change as an overarching, cross sectoral issue to be tackled is already a part of the provincial RENSTRA in East and Central Java. Provincial environmental agency is in charge to supervise the measures related to climate change since the authority of climate change mitigation actions is under respective sectoral offices/agencies.

Appendix D illustrates the priorities on environmental measures including mitigation measures and the financing sources in selected cities/districts in East Java and Central Java based on information collected during the workshops conducted in this study. This table also highlight the initiatives/activities of development priorities conducted in at the local level which is in linewith climate change mitigation actions. Based on the information obtained in during workshop and interview, the awareness and initiatives on related to climate change issues relevant to local governmental authority in most selected districts/cities are the following activities:

¹ Definition of Kantor and Badan:

Badan: “badan” is an institution at local governmental level, lead by a head of ‘badan”. Head of “badan” is responsible to Governor (at provincial level) or Regent/Major (at district/cities level). “Badan” may establish a particular unit to execute supporting or operational/ technical activities.

Kantor: is a supporting institution of the head of local government and the responsibility is to develop local policy with specific nature. “kantor” is led by a head of “Kantor” who is responsible to to Governor (at provincial level) or Regent/Major (at district/cities level)



- waste management (waste management method replacement from open dumping to sanitary landfill, composting),
- street lighting, and
- urban greening.

Few initiatives with APBD are also seen in renewable energy (solar street light initiative and *Jatropha* plantation for biofuel sources in Lamongan district) and urban greening. Other priorities in environmental aspects are improvement on sanitation infrastructure (Blitar)² through Grant from Ministry of Public Works.

Some representatives of local government are aware of the development of National Action Plan on Greenhouse Gas to overcome negative impact of climate change and they understood that the national action plan implementation will be carried out at the local level with guidance on Regional Action Plan on Greenhouse Gas. Although some initiatives are seen related to climate change actions, such as composting, urban greening and transformation of open dumping method to sanitary landfill, there are fewer initiatives in other sectors which could have had significant involvement from local government, such as transport, and conversion from landfill gas to energy.

During the workshop conducted at East Java, some local government representatives were not aware of the level of understanding on the national target of 26% reduction in 2020. The representatives from Central Java showed more understanding and knowledge regarding the National Action Plan on Greenhouse Gas.

3.2 EXISTING FINANCING SOURCES FOR MITIGATION ACTIONS

Table 3.2 provides an illustration on APBD items in 2009: Revenue, DAU (General Allocation Fund), operational expenditures and DAK in Pekalongan and Probolinggo city. These cities are taken as example for a city with population size of about 200,000 to 300,000 people. Kota Pekalongan and kota Probolinggo are taken as example. The total revenue for Pekalongan in 2009 and Probolinggo were approximately about 41 and 45 Million US\$, where about 60%-70% of the total revenue was sourced from the government transfer (DAU). The total DAK (Special Allocation Fund) was only about 8%-10% of the revenue. The DAK dedicated for environmental sector (DAK LH) in each city, Pekalongan and Probolinggo, was about 0.3% of the total revenue. Operational Expenditures including personnel salary and facility compared to the total revenue in Pekalongan was about 76% while in Probolinggo was 74%. Thus, operational expenses contribute to significant expenditure in cities.

Table 3.3 illustrates roughly mitigation cost for mitigation activities identified and described in section 1.3 as relevant for cities. This information is based on literature review and is tailored for specific case in cities. It is shown that some mitigation action cost might require significant amount of fund. With current situation where operational expenditures of city contribute to more than 70% of the city budget, illustrated with the case of Pekalongan and Probolinggo city, less than 30% remains for development including investment and expenditures for mitigation actions. Moreover, the total DAK (special allocation fund) for various sectors only accounts for 8-10% of the total revenue in cities. Thus, ***It is important for the government at the cities/district level to have a clear guidance and examples to ensure that climate change action, as a cross sectoral and overarching issue, particularly in other sectors***

² Based on interview with representative of Kota Blitar



where local government can play an important role, would be mainstreamed into the development planning to ensure efficient use of budget. This could be done by identifying short, medium and long term mitigation actions, and matching these actions with the financial resources available. It is also important then to identify other possible sources of financing for mitigation actions.

Table 3.2 APBD and share of DAU, total DAK, and DAK LH (Special Allocation Fund for Environment) for Pekalongan and Probolinggo

APBD item in 2009	Pekalongan (Population ≈ 280,000)		Probolinggo (Population ≈ 220,000)	
	In IDR	In US\$*	In IDR	In US\$*
Total Revenue	394,469,957,391 ⁺⁺⁺	44,505,197	434,055,346,920 ⁺	45,690,307
- Local Revenue	27,338,979,503 ^{**}	2,877,787	36,087,470,490 ⁺	3,798,681
- DAU (General Allocation Fund)	265,366,000,000 ^{***}	27,933,263	259,538,590,000 ⁺	27,319,852
- Total DAK Allocation (Special allocation fund)	38,705,000,000 ^{***}	4,074,211	35,057,000,000 ⁺	3,690,211
Operational expenditures	302,720,272,564 ⁺⁺⁺	31,865,292	321.704.001.296 ⁺⁺	33,863,579
APBD allocation for expenditures in Environmental Sector activities	20,613,536,900 ^{**}	2,169,846	N/A	N/A
DAK LH (Environmental sector special allocation fund)	1,339,000,000 ^{***}	140,947	976,000,000 ^{***}	102,737

Note: *Assumption: Currency exchange rate in 2009 is estimated at 1 US\$ = IDR 9500

Source: **Questionnaire response of Kota Pekalongan, *** <http://www.tkp2e-dak.org/>, ⁺Peraturan Daerah Kota Probolinggo tentang Anggaran Pendapatan dan Belanja Daerah Tahun Anggaran 2009, ⁺⁺Laporan Keterangan Pertanggung Jawaban (LKPJ) Walikota Probolinggo Tahun anggaran 2009, ⁺⁺⁺ Kota Pekalongan dalam Angka



Table 3.3 Illustration of Mitigation Cost for Cities

Sectors	Investment Cost/ Capex (estimated)	Operational cost/year	Remarks
Waste			
-3R waste management: Integrated Community-based 3R waste management	Approx US\$ 300,000	N/A, depending on the number of population and the system implemented for O&M	Estimated based on Case study in Khulna city, Bangladesh, population: 1.5 Million
-composting/ centralised composting plant	approx. US\$ 50,000	Approx US\$ 30,000	Based on case study in Vientianne, Laos. Population: 750,000
- Replace open dumping to integrated sanitary landfill system	US\$ 500,000-700,000	Approx US\$ 50,000	Estimated based on case studies in Samoa island and in Passi City in the Philippines. Population of Passi city: 80,000
- Waste to energy in sanitary landfill system	approx US\$ 5 million or more	approx US\$ 500,000 or more	Estimated based on a case study in Huzhou City, China. Population: 2.5 Million
Transport			
-Transport modal shifting:			cost will vary depending on the complexities of trajectory and the length of BRT to be developed.
<i>Development of Bus Rapid Transit for public transport</i>	5 to 10 million US\$/km	approx US\$ 1.1 million	Example for Trans Millenio in Bogota. Columbia: US\$ 5.8
-Utilisation of less-intensive carbon fuel	US\$ 350,000 to 450,000 (for a CNG refuelling station)	US\$ 15,000-20,000 (for a CNG refuelling station)	Estimated based on case study in Quetta city, Pakistan. Population: 900,000
<i>Introduction of CNG and setup of CNG stations for fuel supply</i>			
-Public awareness campaign	N/A	N/A	Cost will vary depending the depth and content of the program
Energy			
- Energy Efficiency in buildings for cities	vary from US\$ 20,000 to 200,000/building (focus on lighting, and air conditioning system)	negative operational cost due to energy saving	Estimated based on case studies in various countries (IEA case studies)
Spatial Planning/Land-Use			
Urban greening	N/A	N/A	The cost will vary according to number of trees to be planted, areas to be developed as green areas as well as planning



4. FINANCING INSTRUMENTS FOR MITIGATION MEASURES

4.1 FINANCING INSTRUMENTS FOR MITIGATION MEASURES AT CITY/DISTRICT LEVEL AUTHORITIES

Decentralisation process in Indonesia shifted more responsibilities to the local government by the adoption of Law no. 22 of 1999 on Local Government which is revised to Law no. 32 of 2004 and under this law local governments, particularly at cities/district have responsibility for a range of public services including infrastructure and environmental measures.

Taking into account the decentralization process, Law 33/2004 serves as the basis for the fiscal system applied for the local government at provincial and cities/districts level where local governments are responsible for managing their own public finances including their expenditures. To date, local government in Indonesia currently manages over a third of Indonesia's public expenditure (World Bank, 2007). Description on public finance is given in Appendix A.

Figure 4.1 illustrates the simplified diagram of the fiscal system based on Law no 33 of 2004. To date, the main existing sources of revenue for cities/districts government are the intergovernmental transfers. These transfers from the central government are aimed at reducing fiscal disparities between regions. The transfers are distinguished into Revenue Sharing Fund (*Dana Bagi Hasil, DBH*), General Allocation Funds (*Dana Alokasi Umum, DAU*), special autonomy transfer (only for certain regional areas), adjustment fund³ and Special Allocation Funds (*Dana alokasi Khusus, DAK*). Other revenue sources are:

- local revenue (Pendapatan Asli Daerah, PAD) as stated in UU No. 32/2004 article 157 can be sourced from local taxes and retribution, proceeds from management of local assets and other local income such as interests;
- financing budget which is sourced from the budget surpluses from the previous year, local reserve fund, proceeds from sales of local assets, and external financing such as credits (loan) and bonds.

The sources of revenue stated above are to be unified at local budget (*Anggaran pendapatan dan Belanja Daerah*) as unified revenues except DAK and adjustment fund. Budgets are being unified with the inclusion of more revenue sources in the budget and to allow vertical accountability and transparency all use of the funds must be justified to the regional parliaments (Venning, 2009). No earmarking is applied in local government budget and expenditure. DAK and Adjustment fund is also reported inside the APBD. However, the expenditures of these funds are to be in line with the DAK technical guidelines, and the prioritized sectors prescribed by the Ministry of Finance.

Appendix D summarized the sources of financing currently used for environmental measures including those identified relevant to climate change. In general, the awareness of local government with regards to existing financing for measures related to climate change

³ Infrastructure accelerated fund, is included as a part of adjustment fund as per Regulation of ministry of finance, 113/PMK.07/2010 and 118/PMK/2010



mitigation which are already “no-regret” policy⁴ at the local are still limited to utilisation of the main APBD budget and DAK for reaching the cities/district priorities on environmental issues and measures such as composting, urban greening, transformation of open dumping method to sanitary landfill and other environmental measures prescribed in the technical guidelines of DAK.

The following sections explore possible financing instruments, from public finance to other possibilities that could be tapped for mitigation actions at city/districts level.

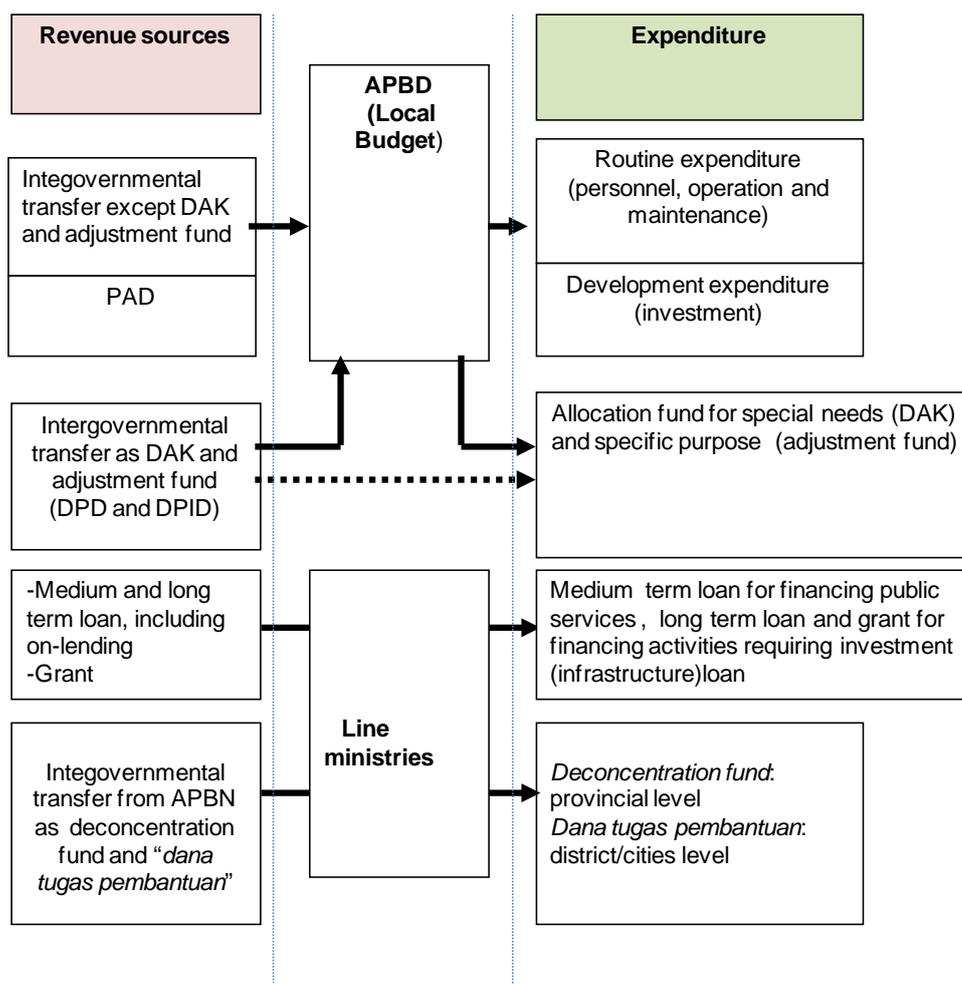


Figure 4.1 Simplified Diagram of Fiscal System at Local Level

⁴ no-regret policy are policy that will be implemented without specific labelling to climate change issues. Such as LED street lamp are cost-saving strategies, another example of no –regret is spatial planning which is already a part of social and environmental development plan of a region



4.2 INTERGOVERNMENTAL TRANSFER

Intergovernmental transfer, including DBH and DAU is still the major revenue source for local government (Die, 2007).

Most cities/district governments in Central and East Java rely on APBD (the unified budget) to finance their current initiatives related to climate change (Composting, sanitary landfill, energy efficient street lighting, urban greening) and other environmental measures as per local RENSTRA under respective sectoral division (e.g., sanitary landfill and urban greening falls under Public Works division) which includes capacity building on environmental awareness at education institution, enforcement of Environmental Impact Assessment, water and air quality management and environmental conservation. In Mojokerto, there is fund already allocated in 2011 of IDR 495,675,000 for planning development of sanitary landfill under the East Java provincial budget to prepare for the development of sanitary landfill.

Figure 4.2 illustrates the government planning and budgeting. The process flow underlining this process flow is as follows: (a) identify all possible resources and demand in the upcoming year; (b) quantify these resources and demands, based on both retrospective (past year trends, etc) and prospective (forecasts, etc.) information (c) prioritise and then allocate resources among the competing demands (d) consolidate all spending proposal into comprehensive budget; and set time horizons for spending of resources.

Short, medium and long term mitigation actions should be mainstreamed with development planning process including bottom-up decision making process through discussion on the City Work Plan (RKPD) at City Development Planning deliberative Forum (Musrembang). Once the City work Plan is approved by the people's representative (DPRD), The Unit Work Plan (SKPD) is established for budget allocation. Discussion on general budget policy and priority is important then to decide which activity could be financed by APBD and which activities financed by other sources.

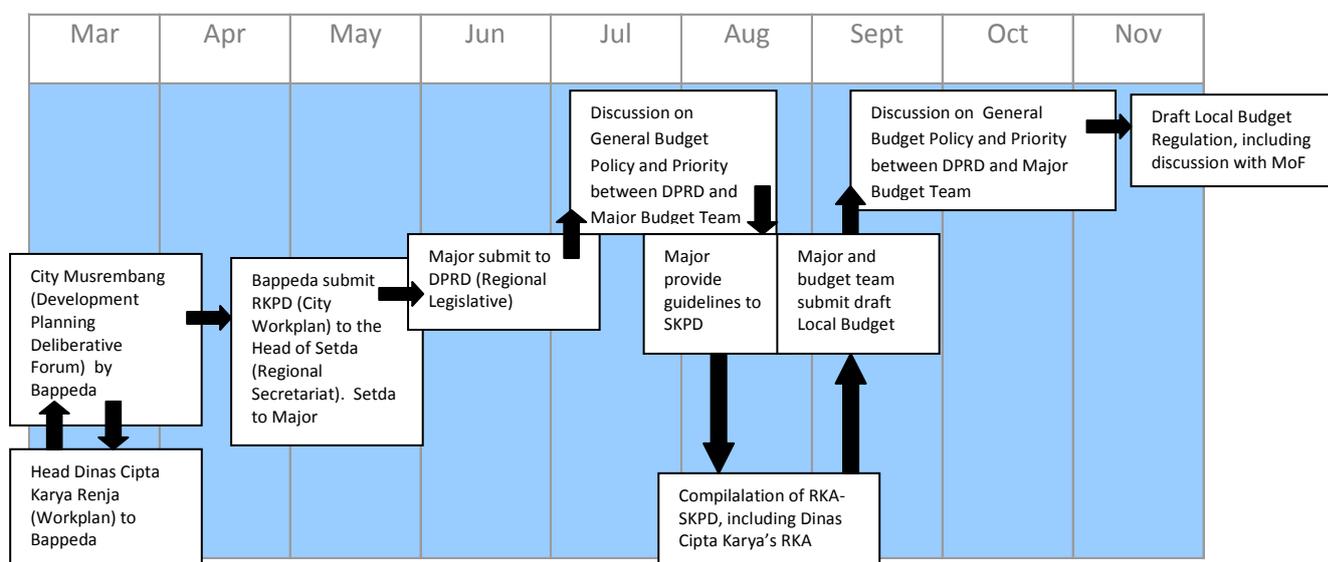


Figure 4.2 Government Planning and Budgeting



BOX. 4.1. JAKARTA'S APBD FOR TRANSJAKARTA BUSWAY

Funds for operations and development Transjakarta buses are budgeted through Jakarta's Regional Budget or APBD. Up until 2010, IDR 3.4 trillion has been budgeted by the local government. The provision of Transjakarta Busway supports mitigation action with less carbon fuel by the use of public transport and also the use of Compressed Natural Gas (CNG) as fuel source of Busway fleet. Problems that arise in the implementation of Transjakarta Busway includes the problem of inefficiency due to unexpected raise in the investment cost of bus fleet and also the unavailability of CNG supply because of the limited number of CNG stations.

4.3 THE SPECIAL ALLOCATION FUND (DAK)

DAK is an earmarked fund transfer from national to local government budget which is aimed at special needs and specific priorities in health, education, infrastructure development, local industry, and environmental measures. While the DAU fund is mostly used to cover administrative costs, the DAK is mainly used for capital expenditure and it is the main source for the development of physical infrastructure for local governments. ***The DAK's primary objective is to improve the provision of public services that have not met certain standards.*** In this way, the DAK may ensure that funding is targeted by sector and by region, and thus reduces disparity in growth rates between sectors and regions (Usman et al. 2008).

To be eligible for the DAK, the local regions must provide Matching Funds equivalent to at least 10% of the DAK to be provided to cover operational cost unless the fiscal capacity is very low⁵. The amount of special allocation fund is determined by the central government by considering the overall fiscal position of a region, level of development, conflict and natural resources, and criteria set by the relevant central government ministries⁶. Share of DAK is limited, only about 3 to 4% of the total local budget in 2004 and 2006 (Die, 2007).

In practice, regional governments have become passive recipients of DAK grants while the legislation actually enables the regions to actively submit proposals. Thus far, regional governments are only tasked to send data concerning regional conditions of facilities and infrastructure in the sectors that receive DAK allocations. The central government (specifically the Ministry of Finance) then uses that data as a determinant for the allocation of DAK by sector and region. Aside from that, the determination of the sectors that are to receive a DAK allocation follows the development priorities laid out in the government work plan (RKP). General, specific, and technical criteria are used to determine DAK allocation. After a region's DAK value has been calculated, the regional government distributes the allocations to various projects and activities in accordance with central government policy (Usman et al. 2008).

Figure 4.3 illustrates the mechanism of DAK for city government:

⁵ Law No. 33 of 2004 on Fiscal Balance article 41

⁶ Law No. 32 of 2004 on Local Governance and Law no. 33 of 2004 on Fiscal Balance.



Step 1, city government provides data concerning local conditions of facilities and infrastructure classified under prioritized sectors for special allocation fund to the central government (Ministry of Finance, MOF). This is the step in DAK where the local government play a role in DAK. For the rest of the process, decision is still under control of central government. MOF then uses that data as a determinant for the DAK allocation by sector and region.

Step 2, The Ministry of Finance through Directorate General of National Treasury provide Budget Allocation document of DAK for allocated provinces/districts/cities (see Figure 2.2). Relevant Line Ministries in-charge of prioritized sectors for special allocation Fund prepare the Technical Guidelines.

Step 3, after receiving budget allocation document, city government, represented by the Mayor, arranges DAK utilization as set forth in the definitive plan (RD) and budget implementation statement (DIPA). The Mayor issues a budget implementation document for the SKPD unit in –charge of the budgeted activity.

Step 4, city government are required to follow technical guidelines issued by the line ministries in the management of DAK-funded activities.

Step 5, city government submits report of the implementation (technical issues) to the lines ministries related to the DAK, which is carbon copied to the Ministry of Finance, Directorate General Fiscal Balance, by the end of the fiscal year (December of each year).

Step 6, Mayors must submit a report on activities in each quarter (March, June, September, and December) physical and fiscal realization, and any issues to the Secretary General of the Ministry of Finance. This report is also provided to BAPPENAS and Ministry of Home Affairs for their inputs. Provincial levels also oversee the use of DAK at city level.

The awareness of local government in utilising DAK for climate change actions is focused on DAK for environmental measures (DAK bidang LH). Bearing in mind that climate change is an overarching issues, ***it is then important to understand the target of DAK in other sectors to mainstream climate change into sectoral activities, in identifying the role and scope of DAK for climate change action.*** Table 4.2 illustrates the DAK allocation plan in 2010 and 2011 for selected sectors related to mitigation actions, and this includes activities for rural electrification, infrastructure and sanitation, forestry and environment.

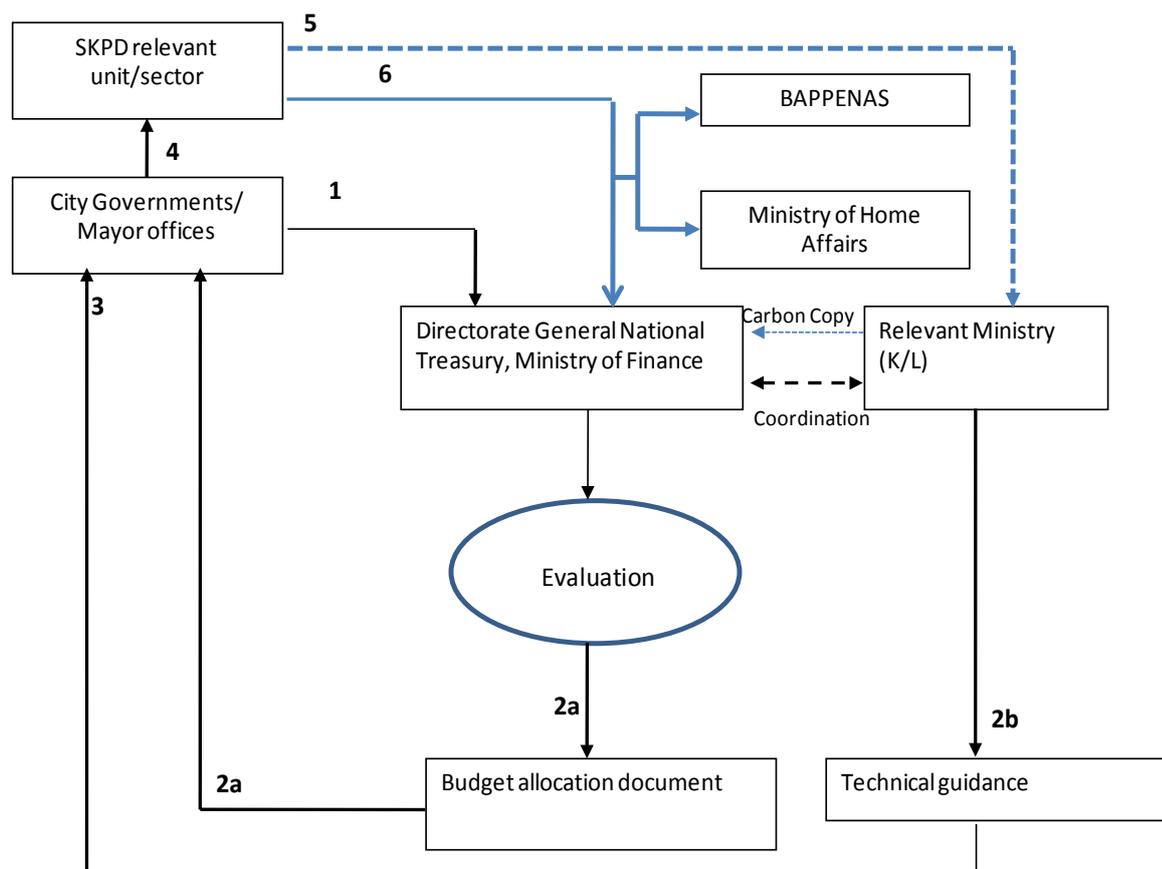


Figure 2.1 Process and Reporting Flow of DAK

Many parties in the regions consider that the central government is often late releasing regulations concerning DAK, clashing with regional planning timetables. When the content of late-issued central decisions differs from the estimations a region has used when preparing their APBD, the APBD must be revised and later reassessed by the regional House of Representatives (DPRD). Apart from wasting the time of government apparatus, this process wastes a significant amount of funds, stretching the regions' already limited fiscal capacity (Usman et al. 2008).

Table 4.2 DAK allocation plan in 2010 and 2011 for selected sectors related to mitigation actions (Source: BAPPENAS, 2010)

Sectors	DAK allocation 2010 (in Billion IDR)	DAK allocation 2011 (in Billion IDR)	Prioritised activities covered
Infrastructure & sanitation	357.2	419.6	To support sanitation development during Medium Term National Development



			Planning 2010-2014, availability of proper municipal solid waste management for 80% households in cities, and to reduce the inundation due to rob or floods of 22500 ha in 100 strategic city area.
Forestry	250	400	To support the rehabilitation of critical land in and outside forest conservation area, Primary Forest area, mangrove area, development of village nursery and peat land conservation. This is implemented in the selected prioritized location (108 location)
Environment	351.6	400	To support the physical infrastructure for environmental management particularly on increasing the quality of environment, reducing the water and air pollution, and solid waste and to support the GHG emission reduction.

4.4 TAX AND LEVIES

Law no. 34 of 2000 and Government Regulation No. 65 and 66 of 2001 regulate the criteria⁷, procedures and type of local tax and levies. According to these regulations, Local Governments are able to design new local taxes but these need to be consulted with the Ministry of Finance and Ministry of Home Affairs, and have to obtain approval from DPRD. To date, numerous local taxes created by local governments were in conflict with the law and did not fulfil the criteria related to tax authority (World Bank 2003, World Bank 2007). There are only few productive taxes have been devolved to the sub-national level.

Example of tax collected by city/district, include: hotel tax, restaurant tax, entertainment tax, advertisement tax, tax for street lighting, tax collection minerals group C, parking tax. Levies collected by the local government include levies for permits at the local level. On the other hand, land and building tax and also income tax are taxes collected by the local government for the central government, and is then distributed by the central government based on the regulation on profit-sharing.

Within the corridor of current fiscal regulation, revenue from local tax is to be unified in the local budget and is not dedicated for specific purposes. For example, Semarang and Mojokerto city and Pati district apply sales tax for tobacco and the revenue from this tax is

⁷ The criteria are as follows: (i) Not harmful to the public interest; (ii) Not in contravention of the national taxation system (no double taxation) (iii) Not produce economic distortions (iv) Must be fair; (v) Must ensure environmental sustainability



directly inserted into the APBD. In this case, design of tax and retribution for climate change mitigation actions should probably be used as a “penalty” or “carrot-and-stick” stick tools for actions that jeopardizing climate change. **Examples from other countries on carbon tax or environmental tax might be beneficial to provide illustration on how tax mechanism could be an effective measure for climate change mitigation action.**

4.5 GRANTS/LOAN FROM LINE MINISTRIES

Another possible source for mitigation action is to tap foreign fund as grants/loan granted through line ministries. The loan is under on-lending framework which needs to be channelled through the Ministry of Finance and approved by BAPPENAS. Some initiative for mitigation actions are conducted through foreign loan in line ministries which is channeled to city government as grants. For example, development of sanitary landfill programme through Ministry of Public Works is financed by foreign loan of which KfW and JICA are part of the donors. Ministry of Public Works also administers the grants from AUSAID for sanitation program. In this case, the Ministry of Public Works distribute a call for proposal to local government including the criteria/prerequisites to apply, e.g.it requires that the city has a waste master plan.

The foreign loan which is sub-loan to the local government is referred to as Sub-loan Agreement (SLA). The authority responsible for the foreign loan payment is the ministry of Finance at the national level while the city/district government will be responsible for the sub-loan payment to the Ministry of Finance. This is referred as “two step loan”.

Figure 4.4 illustrates the mechanism of sub-loan application for cities/districts:

Step 1: The city government provides letter of approval from the Mayor and the DPRD to the line ministry. The letter states city’s willingness and approval for city loan to support the national program organized by the related line ministry.

Step 2: The line ministry will apply the loan on behalf of the city government and submit the application forms to BAPPENAS. The documents that need to be provided along with the completed application form are: (i) letter of approval for loan application from the Mayor and the DPRD (people representative council at the city level) (ii) *Dokumen Studi Kelayakan Kegiatan (DSKK)* (iii) *Kerangka Acuan Kerja (KAK)* (iv) *Daftar Isian Pengusulan Kegiatan (DIPK)*.

Step 3: BAPPENAS will require the information on city finance capacity indicator from the Ministry of Finance to further complete the loan application. The Ministry of Finance keep the record of cities/districts finance capacity indicator based on information received from cities/districts.

Step 4 and 5: Subject to completion of documents including information on city finance indicator, the loan application request is then recorded by BAPPENAS in the medium-term list of foreign grants/loan plan (Daftar Rencana Pinjaman dan Hibah Luar Negeri Jangka Menengah, DRPHLN-JM). The loan application is also recorded in updated list of foreign grants/loans plan. The list is updated annually in November.

Step 6: The list of foreign grants/loans plan is forwarded to the Ministry of Finance, Director General of Treasury.



Step 7: The Ministry of Finance send an official letter requesting sub-loan application to the related line ministry copied to the city government.

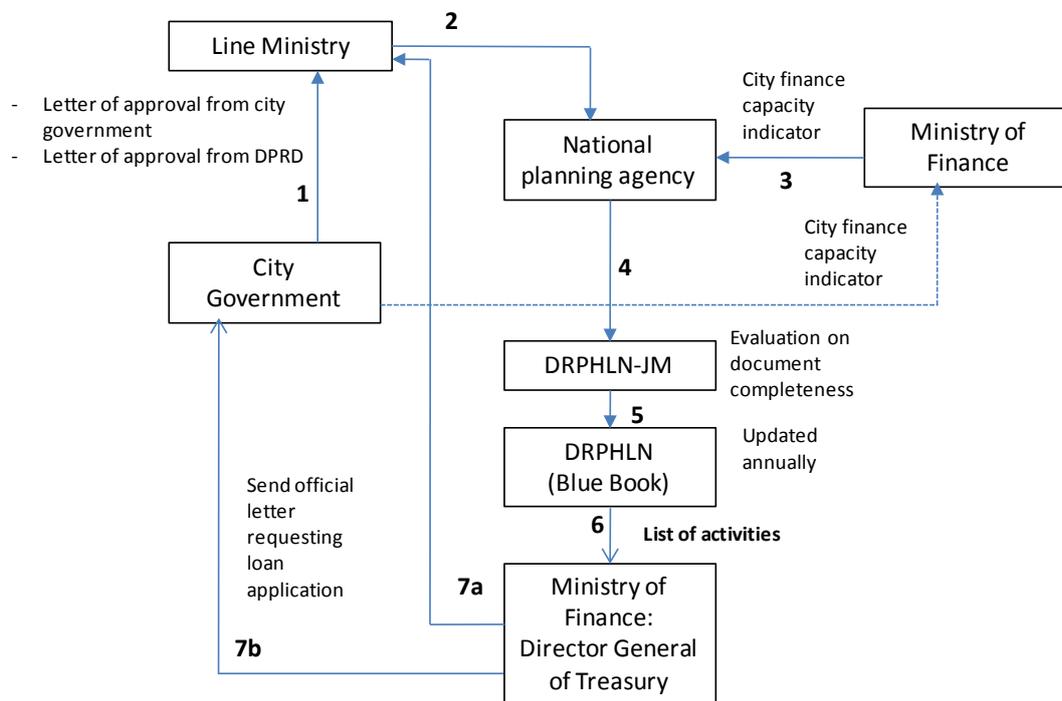


Figure 4.4 Sub-Loan Application Process

Kota Blitar is an example of a city in the process of receiving grant through line ministry for sanitation programme. The program was initiated through a grant from Australian government within the framework of Indonesia Infrastructure Initiative Facility. The grant component was water and sanitation initiative (AUS\$ 20 Million) and infrastructure enhancement grant (AUS\$ 8 Million). This shows that opportunity exist within ministries to tap funds for local development, however not many local government are willing to put effort on it probably due to:

- Lack of awareness of the opportunity within line ministries, particularly for new districts/new cities due to regional expansion (*pemekaran*)
- Lack of capable human resources that could follow the opportunity pro-actively and submit a qualified proposal for loan/grants
- Fiscal capacity does not comply with the loan/grant requirement meaning that cities with higher fiscal capacity is most likely to receive loans because they have the capacity to pay the interest and loan principal.

Box. 4.3. Overseas Lending for Urban Environmental Protection Emission Reduction in Cities

The project “Urban Environmental Protection Emission Reduction in Cities” aims to replace open dumping system with sanitary landfill system that could be extended to integrated sanitary landfill with methane capture. The Funder is KfW working with Ministry of Public Works, Directorate General Cipta Karya. Three cities are shortlisted for Feasibility Study: Malang, Jambi and Jombang. Technical assistance and soft loan to Ministry of Public Work are given in a total of 25



million Euro, to be extended to 60 million Euro for preparation of the project. The City government will receive this by grant and technical assistance.

The process starts by Directorate General Cipta Karya initiating a program to develop sanitary landfills in various cities across Indonesia where some donors are committed to channel funds through loan and grants to Ministry of Public Works to execute the program. City government only receives grants for facility development of sanitary landfill and technical assistance. Cipta Karya conducted road shows and capacity building events to invite interested local government to participate. Based on the interaction during road show as well as Cipta Karya evaluation on city capacity and program development performance, Cipta Karya contacted the interested city government informing existing programs and donors. The interested city government should proactively contact Cipta Karya for further information and participation in the program.

In this program, the main executing agency is Ministry of Public Works, Directorate General Cipta Karya. The financing will be used only to finance investment of technology and equipment, but not the operation of the landfill. Sub-loan to the city government is not available within this program. Thus, the institution responsible for the loan payment and spending is Ministry of Finance and Ministry of Public Works. Although the aim of the program is to develop an integrated sanitary landfill, the loan could catalyze but will not cover development of a total integrated system. Participation of the private sector is sought to achieve the program objective.

4.6 LOAN FROM PUSAT INVESTASI PEMERINTAH (PIP)

Government Investment Unit or PIP under the Ministry of Finance is a public service agency that operates Indonesia government investment. The Unit is established through Minister of Finance Regulation Number 52/PMK.01/2007 on Organization and Work Order of PIP.

PIP provides direct loans to local government on infrastructure (e.g. transportation, electrification), and also intends to facilitate investment for environmental friendly technology (e.g. renewable energy, public transportation, sanitation, bio-ethanol, and forest conservation related projects). These are mostly bankable investments but with social benefit. This scheme looks into the feasibility of the activity, with IRR of 12%, economic rate of return (with social appropriateness). To date, there is no mitigation action that has been financed through PIP. However, PIP is in principle favours specific sectors where the following mitigation actions are covered: renewable energy, solid and liquid waste management, and development of environmentally-friendly transportation system. Financing mitigation activities is likely to be managed in the future by the Indonesia's Green Investment Fund, a revolving fund for climate change related investments under PIP which is currently under development.

The local government would need to provide co-financing for loan scheme from PIP, as in other transfer schemes from the central government to the local government, to ensure the commitment of the local government to the project. In addition, through the loan of PIP funds, local government is to pay an interest rate in addition to the loan principal.

Figure 4.5 illustrates the process for loan application to PIP and the steps are listed as follows:

Step 1: City government send an official letter of loan request to PIP

Step 2 and 3: PIP requests the city government to give a presentation the loan requirement to PIP which is followed by the presentation.



Step 4: City Government submit a loan application to PIP for evaluation. The application document contains: the background and objective of activity to be financed by the loan, Feasibility Study of the activity, financing scheme, and assessment of risks allocation.

Step 5 and 6: PIP approves or rejects the loan application based on evaluation on the loan application document. If the loan is approved, PIP sends an indicative loan offer to City Government.

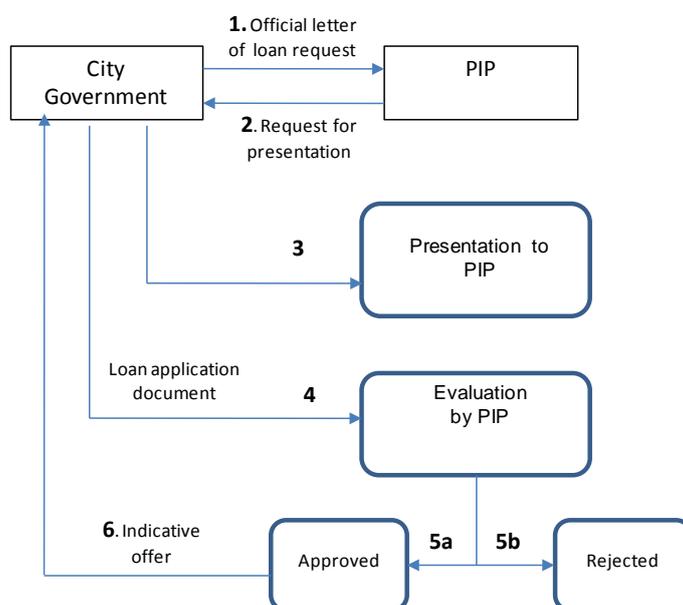


Figure 4.5 Loan Application process to PIP

Box. 4.5. Electricity Supply by Gas Power Plant in Palembang with PIP Assistance

In mid 2010, the Governor of the City of Palembang has presented to PIP, the Government Investment Unit of the Ministry of Finance, their interest to develop Power Generation Gas Engine for electricity supply in Palembang. The loan of IDR 152.9 Billion of loan from Ministry of Finance, channelled through PIP.

PIP has secured 3 loans for regional government (provincial and city governments) since 2009. Issues faced in loan processing are the financing capacity of the regional government and the capacity for loan application: preparation of a proper feasibility documents, and other required detailed documents. Up to now, these loans do not relate to mitigation actions, but the mechanism could be adopted as a model for the upcoming institution under Ministry of Finance, Indonesian Green Investment Fund, which is currently developed within PIP framework.



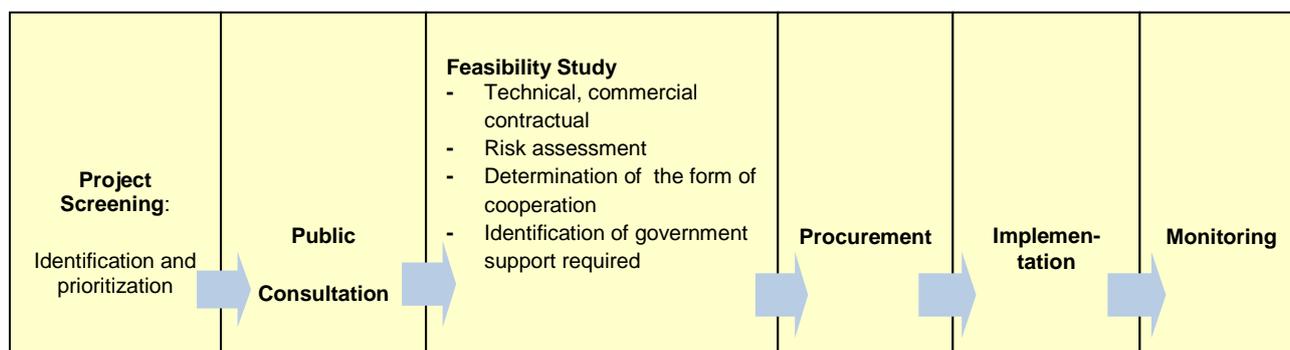
4.7 PRIVATE SECTOR PARTICIPATION THROUGH PUBLIC PRIVATE PARTNERSHIP (PPP)

Engaging Private Sector through PPP framework for investment in mitigation actions is recently encouraged in developing countries to lessen the burden of public finance. PPP is a sourcing method for government to increase participation of private entity in delivery of public services. In a PPP project, the government establish a long-term partnership with private entity to develop, construct, operate and maintain public services such as to construct, operate and maintain an integrated sanitary landfill, or develop and operate a mass transport system. In recent presidential regulation no. 13/2010, Solid waste management is already included as a prioritised sector to be developed as PPP.

There are various business models by which PPP may be implemented, such as Build-Own-Operate (BOO), Build-Own-Transfer (BOT), Operate and Maintain, and Lease-Develop-Operate. To date, there are no restrictions regarding the PPP modality that may be used for a project in Indonesia.

A PPP may be identified and prepared by the government (referred to as “solicited project”) or identified and proposed to the government by a business entity/project developer (referred to as “unsolicited” project). Figure below illustrates the process of PPP investment.

Project screening entails the identification and prioritization of the public service needs eligible for and could be materialised through a PPP scheme. In **public consultation**, GCA shall invite and obtain inputs from related stakeholders, particularly the public related to the project implementation, the project developer(s) and potential lenders. The **feasibility study** evaluates the technical, commercial and contractual feasibilities assess the potential risks as well as risks allocation between GCA and the project developer. The feasibility study should also assess whether the project requires and is eligible to receive government support, e.g. land acquisition, contingent support/guarantees, direct financial support, etc. The **procurement** process involves all the tendering process from prequalification up to contract signature. In the **implementation** process, the project company is established, financing is arranged and development, construction and operation are materialised. GCA shall monitor the performance of the project operation through **monitoring** process that is stipulated in the cooperation agreement between GCA and the project developer.





PPP for a Methane Collection Flaring Project

A Cooperation Agreement between PT Gikoko Kogyo (referred to as “Gikoko”) with the city government of Bekasi, Palembang, Pontianak and Makassar, for landfill gas (LFG) methane collection flaring project in at the city’s landfill provides a case of unsolicited Public-Private Partnership process.

In this cooperation, Gikoko is responsible for financing the construction and operation of the LFG extraction and flaring facility while the city governments are in-charge to continue to own and operate the landfill including land for landfill site, waste collection and the landfill management. The investment for the LFG extraction and flaring facility is expected to be about US\$ 5 Million for each site. The project idea was proposed by Gikoko to and evaluated by the city government and tenders were organized in Makassar and Bekasi and direct cooperation agreement in Pontianak and Palembang. These projects, under cooperation with the World Bank and Asian Development Bank (ADB) as the carbon credit buyers, also applied for CDM registration since the potential revenue from carbon credits is expected to improve the project’s financial feasibility.

The implementation of these projects faces barriers as the methane gas produced was lower than the expectation due to technical issues and the city government have difficulty in meeting their commitment to deliver targeted amount of organic waste and manage the controlled landfill properly. Supports from the government under the form of contingency support/guarantee might be an option for remedial actions in similar projects.

4.8 OTHER POSSIBLE FINANCING INSTRUMENTS: NEW CLIMATE CHANGE FINANCE

4.8.1 Indonesian Green Investment Fund (IGIF)

The Indonesia Green Investment Fund (IGIF) is an initiative under PIP to leverage private and market based sources of funding for low carbon emissions development projects. With the initial paid capital about US\$ 1 Billion, PIP started the establishment of IGIF since early 2010 but the process of establishment is currently underway.

IGIF aims at tapping and optimizing the financing from the International Climate Finance to leverage investment in low carbon business, primarily focusing on renewable energy and sustainable land use which is scalable and commercially viable to private sectors. It is IGIF main intention to attract private sectors participation in low carbon infrastructure development through PPP. The financing that is designed to be channelled through IGIF include blend of grants, concessional loans and equity.

During its initial establishment period, various foreign funding were interested to participate in channelling their funds to IGIF: AFD of French Government with approximately EUR 300-500 million per year over the next three years in the form of concessional loans, DFID funds for IGIF initial set-up and operation, and other international attention from JICA, Korea, and the Islamic Development Bank. However, these funding have not yet been committed as IGIF is not yet fully setup.



4.8.2 Indonesian Climate Change Trust Fund (ICCTF)

ICCTF was created under BAPPENAS to leverage existing fragmented small grants and financial pledges from international donor by bringing these resources together into a trust fund that could be used for financing low carbon initiatives in a larger scale. ICCTF is currently supported by DFID (US\$ 7.5 Million) and AusAID (US\$ 2 Million). The activities currently developed under ICCTF are technical assistance and capacity building activities. It is expected in the future that the ICCTF could provide leverage financing for investment in mitigation action.

ICCTF management consists of Steering Committee, led by BAPPENAS, which provides policy and oversight, and Technical Committee, with members from the Ministry of Finance and BAPPENAS, which is responsible to evaluate project proposals in terms of eligibility, feasibility, sustainability and environmental impact. The Steering Committee has assigned UNDP as the Interim Fund Manager.

ICCTF is designed with a two-stage operation: the first phase supports the Innovation Fund, a grant expenditure fund supporting climate change projects within line ministries not covered by the domestic budget while the second phase is planned to be a Transformation Fund, which is a revenue generating revolving investment fund. However, this revolving fund for investment is not yet in operation. To date, ICCTF funds three pilot projects on climate change initiatives, namely:

- 'Implementation of Energy Conservation and CO₂ Emission Reduction in Industrial Sector' which focuses on identifying energy saving opportunities in the Steel and Pulp and Paper Industry, executed under the Ministry of industry;
- 'Research and Technology Development of Sustainable Peat Management' which focuses on the development of a study to contribute to the nationally appropriate mitigation action (NAMA) plan related to peat land management, executed under the Ministry of Agriculture; and
- 'Public Awareness, Training and Education Program on Climate Change Issue for All Level of Societies in Mitigation and Adaptation' which aims to increase the awareness of the general public, and especially farming and fishing communities of the affects of climate change, executed under the Agency for Meteorology, Climatology and Geophysics.

4.8.3 Initiative in Incentive Scheme

Government Decree (PP) No. 7/2009 has initiated regulation to provide facilities and/or incentives for the implementation of energy conservation, stated in article 5. Besides strategically planning for conservation program, the local government, under this PP, is also responsible in allocating funds for the implementation and providing incentives. Incentive given, includes: tax incentives for energy-efficient appliances, local tax exemption for energy-efficient appliances, import duty waiver for energy-efficient appliances, funds with low interest rates for energy conservation investments in accordance to provisions of legislation, energy audits in a partnership funded by the government. However, according to the Ministry of Energy, the implementation of this Government Decree is still limited, no funds is currently allocated for this purposes. Further initiatives that could be build in this measures include voluntary agreements in energy efficiency, which could be a step towards an establishment of an energy efficiency revolving fund. The challenge in establishing this type of fund is the low electricity tariff in the country due to subsidy, which does not create a significant economic benefit (bankable) for energy efficiency measures.



4.8.4 Corporate Social Responsibilities (CSR)

The implementation of CSR (corporate social responsibility) in Indonesia is governed by UU No. 40 Year 2007 on Corporation. The Law states that “CSR is a corporate liability and accounted as a budget item. Companies that do not perform these activities will be sanctioned”. However, because the Law is new, only regulations for oil and mining and state-owned companies are enforced. For state owned companies, it is required to allocate 2% of its total profit based on UU No. 20 Year 2008).

CSR provides a window of opportunity of funding sources in the future. In addition, based on information gathered through the interviews and workshops at the local level, the current practice of CSR is also inefficient due to a lack of proper recording and monitoring on CSR activities, which creates a problem of overlapping in implementation projects.

Current application of CSR allows a range of activities covering social and environmental aspects. However, current regulation on CSR does not provide clear guidance on proper monitoring of CSR activities. CSR could be used as a source of financing for mitigation actions if City Authorities could provide direction and recommendation to private sector regarding types of CSR that should be conducted.

4.8.5 Guarantee from Indonesia Infrastructure Guarantee Fund (IIGF)

IIGF (*PT. Penjaminan Infrastruktur Indonesia*) is established as a financial instrument to support cooperation programs between Private-Government in the field of infrastructure, most importantly for financing of capping land, and revolving fund for land acquisition. The purpose of this institution is to first, suppress the financing cost of infrastructure private-public partnership (PPP) projects by improving creditworthiness of the project through provision of guarantees against the risk of the contracted projects.

The IIGF operates as a “single window” for the processing and appraisal of all guarantees provided to infrastructure projects proposed by government’s Contracting Agencies (CA). The IIGF employs various types and structures of guarantees – supported by the IIGF balance sheet, the GOI balance sheet, the IBRD (International Bank for Reconstruction and Development) Guarantee and Credit Facilities, or a combination thereof – for greater operational flexibility in providing guarantees for infrastructure projects.

IIGF tasks cover the following activities:

- Market IIGF guarantees;
- Screen infrastructure projects for eligibility to receive IIGF guarantees;
- Review the adequacy and quality of Feasibility Study (FS) and related documentation, as well as project-specific attributes as inputs into the decision to provide IIGF guarantees;
- Ensure the infrastructure project is appraised in accordance with the IIGF project appraisal guidelines;
- Provide feedback to projects seeking IIGF guarantees in the event the request for guarantee(s) is rejected;
- Monitor and supervise projects supported by the IIGF;
- Assist in the overall coordination of processing the GOI’s guarantee program with the GOI, private sponsors, and IBRD (in case IBRD Guarantees are provided).





5. CONCLUSIONS AND RECOMMENDATIONS

5.1 CONCLUSIONS/SUMMARY OF FINDINGS

The following remarks summarize the findings in this study:

- **Existing Financing Sources for Mitigation Actions:** Table 5.1 illustrates relevant mitigation actions and the possible existing financing sources. This information is summarized from the result of workshop and questionnaires responses in Central and East Java and interview. There are existing financing sources available for certain measures as described in the Table. However, depending on the detailed type of measures, the selected technology to be implemented, and the size of measures, other possible financing sources and engagement of private sector through PPP would support implementation of mitigation action
- **Development spending at the local level is less than 30%, because most of the local government budget (about 75%) is allocated for routine spending such as government officials' salary and office supplies.** Because of that, mitigation action tackled at the local level is mostly project-based action with a short-term span. Limited local investment budget makes larger investment in mitigation measures very difficult and challenging. For example, composting, and energy efficient street lighting is already tackled in several city/district and might require smaller financing size. However, those projects that require significant investment with long-term return, such as replacement of open dumping to integrated sanitary landfill with proper operation and maintenance, waste-to-energy, public transportation development, advanced transport control system would require investment planning in a longer spread of time, and would need larger financing. Investment planning should consist of not only intergovernmental transfer but also possibility of other financing instrument (e.g. loans, public-private partnerships, etc).
- **Financing sources for mitigation actions at the cities/district level are dominated by funding through the local governments budget (APBD) including transfer from the central government through Special Allocation Fund (DAK) for the Environment.** Appendix D illustrates the mapping of funding by activities in Central Java and East Java where the regional consultation was held. Activities at the local level in Central Java in line with the National Policy on Climate Change, among other are waste management (waste management method replacement from open dumping to sanitary landfill, composting), street lighting, and urban greening. Few initiatives are also seen in renewable energy (solar street light initiative and Jatropha plantation for biofuel sources in Lamongan district) and urban greening. Less initiative was found in the transport sector.
- **Indonesia's budget system (APBN and APBD) does not acknowledge earmarking, meaning earnings from one sector could not automatically be channelled into the spending of that same sector:** Local level opportunities of mitigation action are then prioritized to development agenda at the local level, so at the same time is also pro-growth, pro-poor, pro-employment, pro-sustainability.
- **The local government in terms of mitigation action and also environmental measures is currently passive in seizing opportunities from external funding due to lack of capacity in human resources.** In East and Central Java, only a few example of the experience in applying for loan and grant, this is due to lack of awareness of the opportunity within line ministries, particularly for new districts/new cities due to regional expansion (*pemekaran*); lack of capable human resources that could follow-up the opportunity pro-



actively and submit a qualified proposal for loan/grants; also, un-compliance of fiscal capacity with the loan/grant requirement

- **DAK of other sectors besides DAK environment (DAK bid-LH) should also be considered in mainstreaming climate change actions into the local development in order to optimize the utilisation of public finance in climate change.** For example, DAK allocation plan in 2010 and 2011 for selected sectors are related to mitigation actions: activities for rural electrification, infrastructure and sanitation, forestry and environment. By evaluating DAK of other sector, the actual needs for financing could be identified.

Table 5.1 Relevant Mitigation Actions and Possible Existing Financing Sources

Sectors	Source of Funding			
	APBD (from DBH, DAU, PAD)	DAK	Access to foreign loan/grants through line ministries as a part of APBN	Private investment/ PPP
Waste				
-3R waste management		V		
-composting/centralised composting plant	V			
- Replace open dumping to sanitary landfill system			V	V
- Waste to energy in sanitary landfill system				V
Transport				
-Transport modal shifting				
-Utilisation of less-intensive carbon fuel				
-Public awareness campaign	V			
Energy				
- Energy Efficiency in buildings for cities			V	
-Efficient streetlighting	V			
Spatial Planning/Land-Use				
Urban greening	V			

5.2 RECOMMENDATIONS

- **Good governance on multilevel authorities:** It is important to allocate appropriate level of authorities from National to local level in order to implement mitigation actions at the local level. National government can work with local government to require and to encourage the development of locally tailored policy and voluntary actions. Corfee-Morlot et.al.,(2009)



highlights the principle for good practice (Table 5.2) to ensure delivery and effectiveness at the local level which can be applied in the climate change mitigation/adaptation context.

Table 5.2 National vs Local Strengths Putting principles of Good Governance into Practice

Principle of Good Governance	Local/Regional Level	National Level
Ensure participatory governance and strategic planning	√√	√
Provide an analytical foundation for short and long-term planning	√	√√
Deliver cost-effectiveness and economic efficiency	√	√√
Encourage experimentation and innovation	√√	√
Address distributional consequences and procedural equity	√√	√
Establish a long-term planning horizon	√	√√
Deliver policy coherence	√	√
Conduct monitoring, reporting and evaluation	√	√

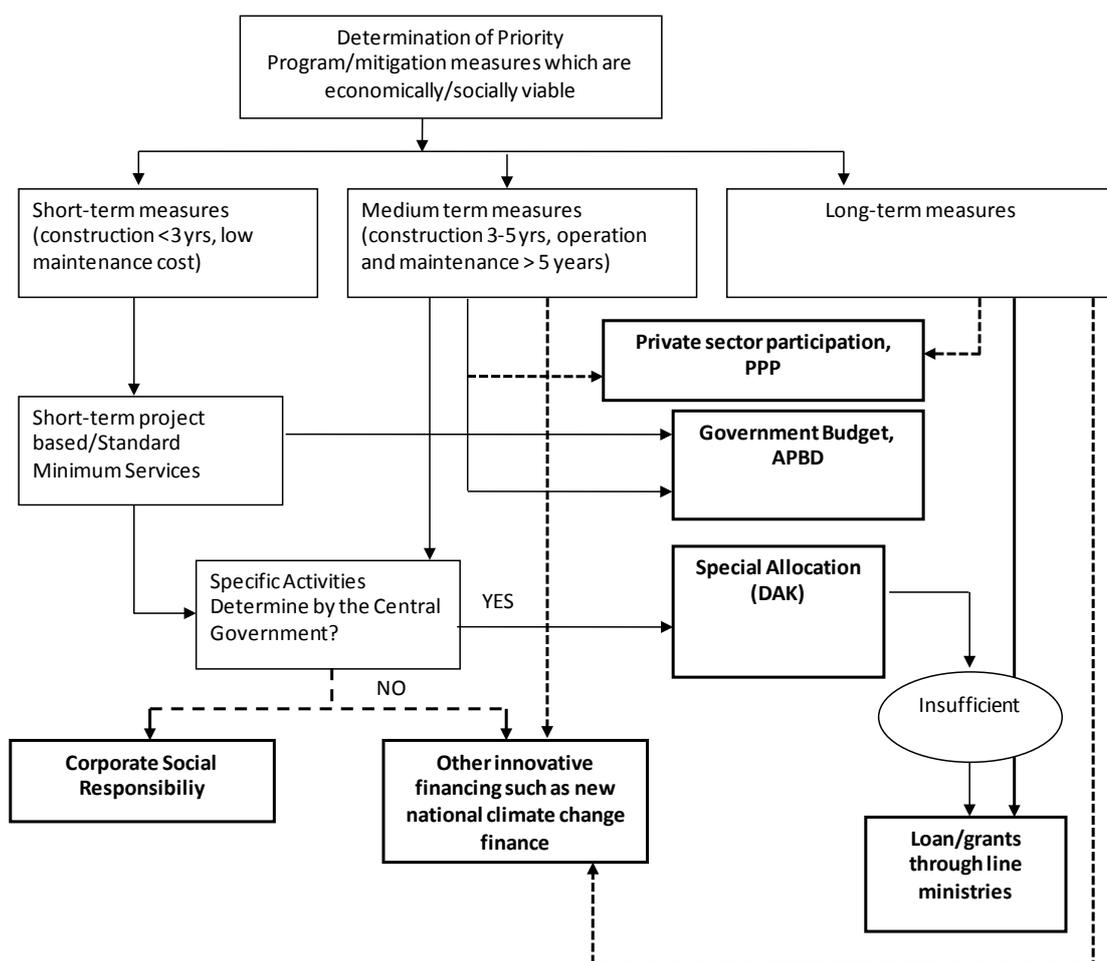
Source: Corfee-Morlot et.al., (2009)

An example that might be of interest to be implemented is multilevel governance through the voluntary agreement in implementing energy efficiency measures. In China, the central government signed contracts on energy efficiency and pollution reduction targets with provincial level/city officials and the implementation is tailored to city needs. In the city of Nanjing voluntary agreement was signed for 5% reduction of emission intensity 2007-2009 between Nanjing Environmental Protection Office and targeted companies (Corfee-Morlot et.al., 2009). In Indonesia, this type of voluntary agreement could be a model prior to establish an energy efficiency revolving fund.

Each type of mitigation measures particularly those relate to infrastructure activities/ projects such as waste management, transportation system, energy efficiency measures, is associated with cost related to feasibility assessment, investment or capital expenditures and operation and maintenance cost. Nature and type of mitigation measures differ and could be classified into short-term measures that could be developed as project-based and could be achieved on a short-term basis (1-3 years), medium measures with significant



capital cost, as well as operation and maintenance expenditure (medium term, 3-5 years of development, with > 5 years of operation and maintenance), long term-measures related to longer term policy such as integrated land-use/spatial and transport planning. Figure 5.1 illustrates a flow which could be adopted by the city governments in selecting the appropriate financing type for each mitigation measures (short, medium and long-term). For activities which has short-term and required to meet the standard minimum services, the city government budget (APBD) is likely be the main source. Short-term mitigation action is related to program or target set by the national government are allocation through DAK from certain ministries. Certain mitigation measures could also be supported by specific grants/loans channelled through line ministries for local government to support national initiative which could complement DAK. The medium term which is financially feasible could attract the private sector participation through Public Private Partnership (PPP) scheme.



- **Provision of capacity building (training/workshops):** To empower city government in identifying appropriate mitigation measures and matching the measures with appropriate financing, which would result in efficient usage of limited funding for mitigation action, Technical assistance which include capacity building component in terms of training to city government with the following content could be provided:



- **Abatement cost vs economic/financial feasibility of relevant mitigation measures:** This training will aim at providing a realistic case of abatement cost, investment cost, and financial/economic indicators (e.g., pay-back period, Internal rate of return) of relevant measures which could be already included in their development planning. Examples from other countries will be given as a preliminary introduction to let the city government understand the context, followed by presentation/lectures, and group work on assessing the city's programme and activities in the development planning in identifying appropriate mitigation actions.
- **Local GHG inventory:** The establishment of a local level GHG inventory would then be very crucial since this would enable the local government and national government to cross-check with the national inventory, assess cost-effectiveness of additional mitigation options and manage the available funds according to priority emission reduction target. The selection of relevant mitigation activities and the implementation of mitigation action in the local level will need support from the deployment of local GHG inventory.

In organizing the training, identification of target audience/participants from the city government is important to ensure that the training results will be sustainable. The timing and period for the training should take consider the political agenda and period/cycle, and the mayor tenure.

One of the challenges in the implementation of mitigation measures at local level is also lack of appropriate funding for implementing capacity building activities. As highlighted by Corfee-Morlot (2009), Central or national level authority have the opportunity to support city competence on climate change. The financial support could be allocated from the central government to enhance the quality of human resources at local level to enable local government design locally tailored response to climate change.

Test of mechanism for new climate change finance, ICCTF and IGIF: ICCTF and IGIF has not yet fully operationalised and there is an area in this new climate finance to support local government mitigation measures. The selection of financing instruments/sources of finances based on short-term, medium-term and long-term measures could be integrated with ICCTF and IGIF mechanism and be tested at the local level for example in one or two pilot cities to verify its effectiveness and to provide in-situ experience for improving the mechanism itself before it is fully operationalized.



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APPENDIX A: DESCRIPTION OF PUBLIC FINANCE

This appendix provide information of the role of public finance in the current development agenda, that would provide insights in financing mitigation in a context of mainstreaming mitigation into the development agenda.

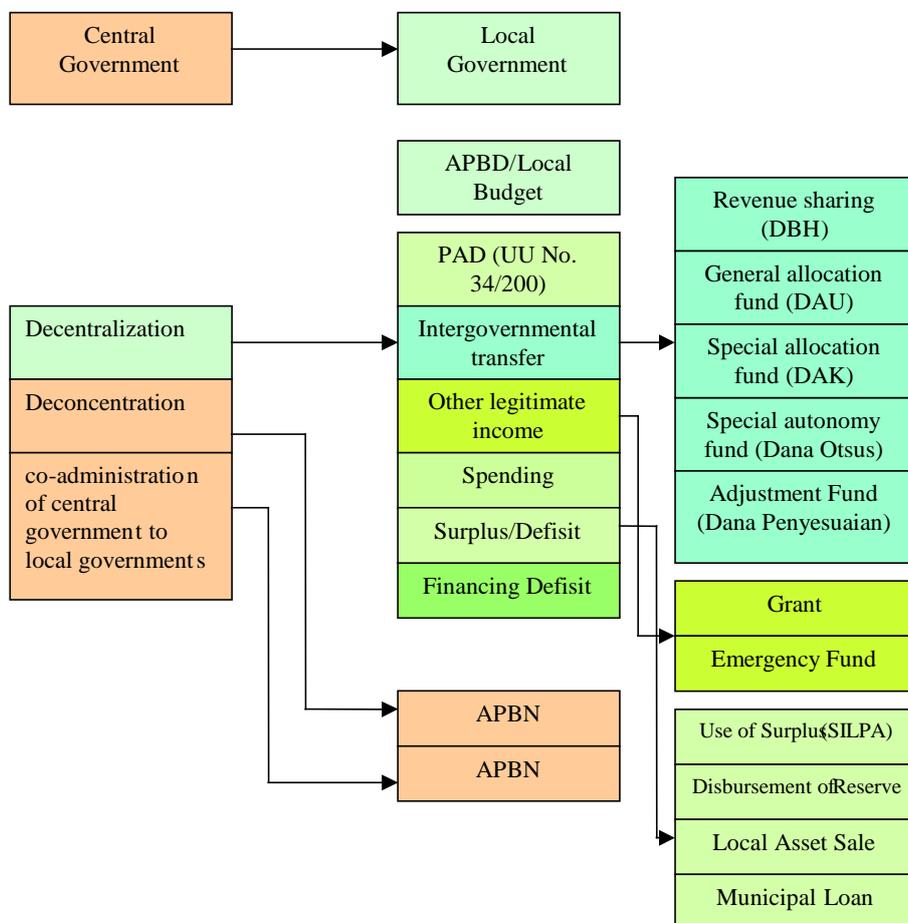


Figure A.1 Fiscal System at in Indonesia

A.1 The Use of Intergovernmental Transfers

Indonesia enters an era of regional autonomy since 2001 allowing local government, especially cities/district government to regulate and manage development interest at the local level according to its own aspiration. The central government's responsibilities are then distributed to the local government by the adoption of two new laws that is UU No. 22 Year 1999 on Local Government and UU No. 25 Year 1999 on Fiscal Balance. The former is then updated with UU No. 32 Year 2004 and the later UU No. 33 Year 2004.



Inline with this, the national budget (APBN) is then transferred to the local government through intergovernmental transfer. The objective aims to provide certainty of funding sources for local government, narrow the fiscal gap, and reduce fiscal disparities between regions, and between regions and the center itself (Abimanyu, 2009). **Transfers from central government are still a dominant financing source for most local governments in Indonesia.** This transfers are in the form of 1) Revenue Sharing (DBH), 2) General Allocation Grant (*DAU-Dana Alokasi Umum*), 3) Special Allocation Grant (*DAK-Dana Alokasi Khusus*), 4) Special Autonomy Fund (*Dana Otsus*), and 5) Adjustment Fund (*Dana Penyesuaian*), see Figure A.1 Fiscal System at Local level in Indonesia.

Issues: The implementation of fiscal balance is not without problems, Abimanyu (2009) stated that the decentralisation policy has created fiscal imbalance between the central government and the local government. Empirical fact shows that the savings of spending by the central government with fiscal decentralization is lower (1.6% of GDP), than the increase in spending by the local government (2.2% of GDP). In addition, although decentralization delegates the responsibilities for provision of public services including environmental measures of the central level to the sub-national level, the majority of the development expenditures (or capital expenditures) is still spent by the central government. To add to this, **the sub-national government in the case of city/local government spends about 75% of its budget for routine expenditure (spending for government officials' salary, office supplies). This does not leave much for development, and the limited fund for development is compete with other development priority (e.g. education program, housing, health program, etc.)**

Budgeting planning in Indonesia has two constraints: *(i)* very tight control over input prices down to the very micro level in government spending plans (tight control input on budgeting). This condition makes the process of spending allocation relatively inefficient due to consumption time spent in the discussion between fiscal authorities and government agencies that use more budget resources to assess the fairness of the prices of inputs so the impact to the lack of focus discussion on the orientation of the budgetary policy itself. This is coupled with the lack of parameters or indicators that show a certain level of performance you want and should be achieved through budget policy; *(ii)* The orientation of budgeting planning process as annual planning making it difficult to create conditions for result-oriented government policies targeting the next few years. This condition causes the budget expenditure policy lacks of clear policy context within a certain period that is relatively longer than just one fiscal year alone (Ratnawati, 2009).

Table 4.1. Fiscal Balance in 2001 and 2008

Category	2001	2008	Change
	Million rupiah	Million rupiah	(scale)
DAU	60.345,8	179.507, 15	1,97
DAK	700,9	21.202,14	29,25
DBH	20.007,7	62.671,38	2,13
Total	81.054,4	263.370, 67	2,25

Source: Directorate of Fiscal Balance, Ministry of Finance

Revenue Sharing (DBH): Revenue Sharing comes from tax earnings and natural resources earnings. Type of taxes, which can be shared, are the land and building tax, duty for obtaining rights on land and building and personal income tax. Natural resources earnings include production-sharing fund from oil, natural gas, general mining, forestry and fishery. Distribution of



profit sharing funds based on revenue realization from state revenue sources that shared to the region (DIE, 2009).

General Allocation Fund (DAU): The purpose of the General Allocation Fund/DAU allocation is to balance out the financial capabilities among regions (equalization grant). General Allocation Fund formula of fiscal year remains the same as the previous year with the concept of fiscal gap as mandated in the UU No. 33 Year 2004 and Government Regulation No. 55 Year 2005 on General Allocation Fund (DIE, 2009)

Special Allocation Fund (DAK): Filling up the gap of facility and infrastructure supply prioritized sectors, namely education, health, infrastructure, and marine & fisheries, electrification, environment, with general and technical consideration also refer to the state budget capability (DIE, 2009).

Special Autonomy Fund (*Dana Otsus*): the Fund is allocated for Aceh Province and Papua Province to be allocated to programs with direct impact to these provinces. These provinces are rich resources province that is currently behind in their development.

Adjustment Fund (*Dana Penyesuaian*): are fund to improve local government performance in provision of public services especially for those with low fiscal capacity. The fund should be inline with DAK program, but however there are problems in terms of transparency, inequality and predictability. However, the current political context would not accept a total omission of this fund (Kumorotomo, 2010).

A.2 On-Lending and On-Granting Policy⁸

Decentralization provides local government with a large authority and responsibility on regional development; therefore, it is required the adjustment and improvement on mechanism in handling the projects financed by offshore loan. To accelerate regional development and improve public services, regional governments may receive offshore loan through the central government.

According to Minister of Finance Decree No. 35/KMK.07/2003

- The funds of Central Government loans shall be channeled to the Region in the forms of Loans or Grants
- Regions would be submitting the proposal of the projects to be financed by Government Foreign Loans to the Minister of Finance and State Minister for National Development Planning (Head of BAPPENAS).
- Regions shall submit project proposal by enclosing the following:
 - o Terms of Reference of the Project;
 - o Feasibility Study;
 - o Other necessary supporting documents such as: regional revenue and expenditure budget and regional development plan.

⁸ As stipulated in Minister of Finance Decree No. 35/KMK.07/2003



APPENDIX B: REPORT OF WORKSHOP AND INTERVIEW JAWA TIMUR

Workshop “Existing and Available Financial Options for Environmental Measures”- 24 November 2010, BLH Province Surabaya, Jawa Timur

Findings from the Discussion on Presentation 1: Climate Change and Mitigation Measures:

- **Information on climate change and climate mitigation, including the national target of 26% reduction in 2020 was seen as something new in the workshop.** The participants questioned the source of data for these figures. They also questioned whether it is reliable. However once discussed that this is based on the national accounting done by the Ministry of Environment and that this has been incorporated in national strategies by BAPPENAS, the participants were satisfied.
- **The need for local GHG inventory was also highlighted in the discussion.** Participants that are mostly from the office of environment management at the city/district level questioned why local level GHG inventory have not been establish as basis for mitigation actions by city/district level governments. The participants argue that city/district have several mitigation strategies, however they are currently unmeasured (in terms of emission reduction). The establishment of a GHG inventory at local level could provide information to crosscheck the national inventory and manage the implementation of the national emission reduction targets. In this discussion, the participants were updated with the information that the national government (BAPPENAS) is currently working on guidelines for monitoring and verification at the local level.
- Among the initiative mentioned by the participants, as the GHG mitigation strategies are tree planting, waste management, public transport, alternative energy (e.g. micro-hydro), energy audits and clean water audit.
- The participants were interested in the Kyoto mechanism and carbon trading.
- **Discussion on cost savings and cost effective strategies was also discussed.** The participants found it useful to have and can provide cost savings and cost effective information to their superior as motivation and arguments to prepare mitigation programs/strategies.

Findings from the Discussion on Presentation 2: Existing and Available Financing Options:

- **It was suggested by one of the participants that information on financing and budgeting, would be best be obtained from BAPPEDA (the office of development planning at the local level).** Information on external grants or loan at the local level also should be discussed with BAPPEDA.
- **The participants were quite familiar with DAK-LH and CSR, but were new to the Ministry of Finance’s PIP scheme.** See table for example of DAK-LH and CSR funding purposes.

Findings from Questionnaire:

- It was agreed during the workshop to send another official letter to the local government of which this to ask for completing questionnaires within a week from the time of questionnaire distribution. However, participants still contribute to answer the questions, which they can respond during the workshop.
- Based on the attendance of participants during the workshop, some information on financing for environmental measures are obtained from the following cities/districts:



- Probolinggo city
 - Lamongan city
 - Surabaya city
 - Malang District
 - Pasuruan City
 - Mojokerto City
- The result of fact finding from the discussion is available in the Table below. The list is not exhaustive. If no information on the matter was noted it simply means that the representative of the city/district in this forum was not familiar or able to provide more information, and it does not mean the city/district does not have any initiative or strategies on that matter.
 - The environmental office in the district/city has many forms depending on the situation and needs of the district/city. The form of the office would then relate to the quality of human resources and the responsibility that the office could take-on (see Government Decree No. 1 Year 2007 (PP No.4 Tahun 2007) on Organization of Local Level Institution).
 - The minimum services that are already carried out in the city/district level which are related and significant to mitigation program include: AMDAL (environmental impact assessment program), regulation on spatial planning, quality of the government minimum services (ISO as a criteria), and development of landfill for open dumping replacement.
 - There are also other initiatives, including: LED street lamp, energy audit, waste management education and public campaign program (see more in Table below).
 - In terms of financing options, the participants have no experience with new financing outside of the central government transfers.
 - CSR is mostly given directly to the community, which the government has little control over.
 - The participants are not familiar with the Ministry of Finance's PIP program, and interested to learn more.



Table.B.1 Metaplan from Questionnaire Jawa Timur

No.	Question	City Probolinggo	Lamongan District	Surabaya City	Malang District	Pasuruan City	Mojokerto City
1	City priorities?	<ul style="list-style-type: none"> - ISO within its SPM (minimum public service of the government) - City spatial planning (2010), regulating a 40% green space for every 60% LUC 		<ul style="list-style-type: none"> - Governance of AMDAL (environmental impact assessment) - Development of trans-city rails (Surabaya-Lamongan-Mojokerto) - Regulation of green space 	<ul style="list-style-type: none"> - Governance of AMDAL (environmental impact assessment) - A draft regulation on environmental management - No PERDA on RTRW (spatial planning) based on the central government regulation 	No PERDA on RTRW (spatial planning) based on the central government regulation	No PERDA on RTRW (spatial planning) based on the central government regulation
2	Initiative the city is currently working on?	<ul style="list-style-type: none"> - City composting unit - LED street lamp - Community based sanitation 	<ul style="list-style-type: none"> - Solar energy initiative in household - Biofuel supply industry 	<ul style="list-style-type: none"> - Solar cell for rail warning system - LED street lamp 	<ul style="list-style-type: none"> - Solar and biogas to electricity for household (small scale) - Household waste separation - Waste water to energy 	Composting	<ul style="list-style-type: none"> - Energy efficient street lamp - Composting - Landfill - Community based sanitation
3	Existing source of financing for environmental management?	<ul style="list-style-type: none"> - PAD & DAU - DAK-LH: Mobile Lab - DPDF (Dana Percepatan Daerah): greener space 	<ul style="list-style-type: none"> - PAD & DAU - DAK-LH: Mobile Lab 		<ul style="list-style-type: none"> - PAD & DAU - DAK-LH: biogas development, waste collection, reservoir (NOTE: DAK-LH has specific juknis/guideline, it is needd to check 	<ul style="list-style-type: none"> - PAD & DAU - DAK-LH: Laboratories, mobile Lab, Lab equipment - DAK-LH: green space 	<ul style="list-style-type: none"> - PAD & DAU - Dana Bagi Hasil Cukai Tembakau: green space - DAK-LH: Lab



		- DPIDP (Dana Penguatan Infrastruktur Daerah): Landfil (TPA)			whether this testimony correspond to the guidelines of DAK-LH) - Dana Bagi Hasil Cukai: public campaign on smoking and smoking room (Note: not related to mitigation)	- DAK-LH (2009): composter, communal septic tanks	
4	Other sources?	CSR (currently 83 companies are participating): tree planting program, community waste collection tools (wagon, etc)	CSR (problem: CSR is usually directed directly to the communities by the companies)		CSR directly to the community		
5	The form of the environmental office?	Badan	Kantor	Badan	Badan	Kantor	Kantor
6	Other offices to be contacted in relation to mitigation effort?			Dinar Perhubungan Bappeda Kota	Dinas ESDM Dinas Perhubungan Dinas Cipta Karya	Dinas PU Dinar Energi Dinas Perhubungan	Dinas Kebersihan



Interview with Staff of Program Planning of the BLH (*Badan Lingkungan Hidup Tingkat Provinsi* – Office of Environment Province Jawa Timur) - 25 November 2010, BLH Province Surabaya, Jawa Timur, Mr. Subardja, head of staff, Program development, BLH Jawa Timur.

Findings from the interview:

- Under the Decentralization Law (UU Desentralisasi), the provincial government work is mainly on monitoring and evaluation, and the autonomy is directed to the district/city level. However, the provincial government is responsible for environmental problems that are related to two or more district/city. In the case of BLH Surabaya Province, river conservation is the priority work in terms of pollution control.
- Current financing is basically from the provincial APBD, and the central government transfer (APBN) from the Ministry of Environment and have not engage in new financing options within their responsibility.

Interview with Head of Regional Development (*Badan Perencanaan Pembangunan Tingkat Provinsi* – Office of Development Planning Province Jawa Timur) - 25 November 2010, BAPPEDA Province Jawa Timur, Mr Zuhdi, head of Regional Development, BAPPEDA

Findings from the Interview:

- According to BAPPEDA, the province task is mainly to coordinate the implementation action of districts/cities in the province
- The program in Jawa Timur Province related to climate mitigation are geothermal development (site include Ijen and Ngebel), development of railroad transport, training on energy efficient buildings, tree planting, mobile source (vehicle) emission inspection, monitoring industrial waste, development of micro-hydro (together with related district/city government).
- It is also confirmed that current financing is basically from the provincial APBD, and the central government transfer (APBN) from the Ministry of Environment as Deconcentration fund and have not engage in new financing options within their responsibility. The province is also responsible to monitor deconcentration fund where this fund is directed to district level. This fund is a transfer from the national government to the provincial government in the provincial government's capacity as representative of the national government in the region. In relation to climate change, the fund is use mostly for capacity building, for example is to fund forestry capacity building program. This includes training, operational expense for training, the awareness program.
- The provincial government is also interested in REDD, and have participated in the discussion at the local level on REDD.
- In relation to CSR, 70 companies have participated with about an amount of 400 million rupiah yearly funds, for consumer care services, human development programs, green environment, awareness program, community development program. However the companies are free to decide how to spend or what type of CSR program they want to engage on. This results in overlapping of program and a lag between government development planning and the focus of CSR program.



APPENDIX C: WORKSHOP AND INTERVIEW JAWA TENGAH

Workshop “Existing and Available Financial Options for Environmental Measures” - 15
December 2010, BLH Province Semarang, Central Java

Findings from the discussion:

- **There is difference in the priority of national mitigation strategy and local mitigation strategy based on calculation of potential GHG, such in the case of Central Java.** For Central Java, forestry is not the mitigation priority sector. Central Java is in the process of developing its GHG inventory. The provincial government of Central Java has submitted budgeting on its regional action plan on GHG reduction. The proposal includes budget, location, and authority, without emission reduction target and information on current GHG baseline and monitoring of GHG emission.
- **The forum was not convinced that the central government would secure available funds to achieve the national target of 26% GHG emission reduction by 2020.** The opinion is derived from past experience of inconsistency in central government policy. On top of that, local governments funds for development is limited. 70% of local budget are for routines expenses such as salary, office equipment, office travel, etc. The remaining budget is then competed between several development needs such as infrastructure development, regional elections (Pilkada), poverty alleviation program, and also environmental management program.
- **Mitigation strategy is to be inclined with MDG targets.** Local government is currently focusing on achieving national targets of MDGs. An alignment between the two targets by prioritizing strategies with GHG emission reduction and MDGs target, could allow the effective use of limited development budget.
- **There is a paradox in mitigation strategies in the waste sector that is giving out incentive for end use strategies and not for upstream process.** In the case of Pekalongan, the city was not nominated for funding to develop landfill because the amount of waste produces was low. This is due to Pekalongan's effort in managing waste, through reducing, reusing, composting, and recycling program.

Findings from questionnaire:

- **Local government financing for development is heavily dependent on central government transfers.** It is perceived that funding from private sector would not increase significantly in the next 3-5 years. For fast track financing in mitigation, the local government is interested on grants available by international funds.
- **Not all mitigation strategies are within the authority of environmental office, in the local government.** The Table below provides information on mitigation activities and the source of financing, collected from the local government. Local government mostly uses central government transfer as sources of funding, with some experience in participation of private sector.



Table C.2 Metaplan from Questionnaire JAWA TENGAH

No.	Question	Karang Anyar District	Lamongan District	Surabaya City	Malang District	Pasuruan City	Mojokerto City
1	City priorities?	-		<ul style="list-style-type: none"> - Governance of AMDAL (environmental impact assessment) - Development of trans-city rails (Surabaya-Lamongan-Mojokerto) - Regulation of green space 	<ul style="list-style-type: none"> - Governance of AMDAL (environmental impact assessment) - A draft regulation on environmental management - No PERDA on RTRW (spatial planning) based on the central government regulation 	No PERDA on RTRW (spatial planning) based on the central government regulation	No PERDA on RTRW (spatial planning) based on the central government regulation
2	Initiative the city is currently working on?	<ul style="list-style-type: none"> - City composting unit - Closing open dumping to landfill 	<ul style="list-style-type: none"> - Solar energy initiative in household - Biofuel supply industry 	<ul style="list-style-type: none"> - Solar cell for rail warning system - LED street lamp 	<ul style="list-style-type: none"> - Solar and biogas to electricity for household (small scale) - Household waste separation - Waste water to energy 	Composting	<ul style="list-style-type: none"> - Energy efficient street lamp - Composting - Landfill - Community based sanitation
3	Existing source of financing for environmental management?	<ul style="list-style-type: none"> - PAD & DAU - DAK-LH: Mobile Lab - DPDF (Dana 	<ul style="list-style-type: none"> - PAD & DAU - DAK-LH: Mobile Lab 		<ul style="list-style-type: none"> - PAD & DAU - DAK-LH: biogas development, waste collection, reservoir (NOTE: DAK-LH has 	<ul style="list-style-type: none"> - PAD & DAU - DAK-LH: Laboratories, mobile Lab, Lab equipment 	<ul style="list-style-type: none"> - PAD & DAU - Dana Bagi Hasil Cukai Tembakau: green space



		<p>Percepatan Daerah): greener space</p> <ul style="list-style-type: none"> - DPIDP (Dana Penguatan Infrastruktur Daerah): Landfil (TPA) 			<p>specific juknis/guideline, it is needd to check whether this testimony correspond to the guidelines of DAK-LH)</p> <ul style="list-style-type: none"> - Dana Bagi Hasil Cukai: public campaign on smoking and smoking room (Note: not related to mitigation) 	<ul style="list-style-type: none"> - DAK-LH: green space - DAK-LH (2009): composter, communal septic tanks 	<ul style="list-style-type: none"> - DAK-LH: Lab
4	Other sources?	CSR (currently 83 companies are participating): tree planting program, community waste collection tools (wagon, etc)	CSR (problem: CSR is usually directed directly to the communities by the companies)		CSR directly to the community		
5	The form of the environmental office?	Badan	Kantor	Badan	Badan	Kantor	Kantor
6	Other offices to be contacted in relation to mitigation effort?			Dinar Perhubungan Bappeda Kota	Dinas ESDM Dinas Perhubungan Dinas Cipta Karya	Dinas PU Dinar Energi Dinas Perhubungan	Dinas Kebersihan



Interview with Staff of Program Planning of the BLH (*Badan Lingkungan Hidup Tingkat Provinsi* – Office of Environment Province Central Java) - 16 December 2010, BLH Province Central Java, Mr. Tri Tuni Atmojo

Findings from the interview:

- The provincial government has submitted their proposal on GHG emission reduction provincial action plan. Consisting strategies in waste sector, forestry sector, agriculture, industrial sector, transportation sector, energy sector, of a total of 298 billion Rupiah (equivalent to 33 million USD⁹). However the proposals lacks information on the emission reduction.
- Current financing is basically from the provincial APBD, and the central government transfer (APBN) from the Ministry of Environment through DAK (special allocation funds).

Interview with Staff of Natural Resources and Environmental Unit (*Badan Perencanaan Pembangunan Tingkat Provinsi* – Office of Development Planning Province Jawa Timur) - 16 December 2010, BAPPEDA Province Central Java, Ms. Lia Ningsih Ismail

Findings from the interview:

- According to BAPPEDA, the province have proposed Central Java's GHG emission reduction action plan, but have not received any feed-back from the Bappenas. The local government is willing to mitigate GHG emission, but need information on how much reduction is assigned to Central Java.
- The provincial government also needs assistance in calculating GHG inventory and the emission reduction.

Interview with Secretary (*Dinas Energi dan Sumberdaya Mineral* – Office of Provincial Energy and Mineral Resources Central Java) - 16 December 2010, Dinas ESDM Province Central Java, Mr. Bambang Kris

Findings from the interview:

- Dinas ESDM Central Java has several experiences with direct transfer from Ministries at the central government to the provincial government. For example, transfers from Coordinating Ministry for the Economy that is for the development of biofuel. The program was small scale and ended after the funding stopped due to lack of support to conduct analytical study on the feasibility of the project and its continuation.

⁹ 1 USD = 9000 Rupiah



APPENDIX D: PRIORITIES ON ENVIRONMENTAL MEASURES AND INITIATIVES RELATED TO CLIMATE CHANGE IN SELECTED DISTRICTS/CITIES IN CENTRAL AND EAST JAVA

District/cities	Population (2010)*	District/City priorities on environmental measures	Initiatives related to climate change	Source of Financing
Central Java				
Cilacap District	1,600,000 (in 2006)	Wastewater management, air pollution/quality management	Centralised composting plant, Solid waste management: replacement of open dumping method to sanitary landfill	APBD (intergovernmental transfers outside DAK and PAD) and DAK
Karanganyar District	800,000 (in 2006)	Hazardous Waste, Wastewater management, water and ecosystem conservation, river quality management	Centralised composting plant, Solid waste management: replacement of open dumping method to sanitary landfill	APBD (intergovernmental transfers outside DAK and PAD) and DAK
Kebumen District	1,200,000 (in 2007)	Wastewater management, air pollution/quality management, restoration of soil damage	Centralised composting plant	APBD (intergovernmental transfers outside DAK and PAD) and DAK
Kendal District	930,000 (estimated, in 2010)	Wastewater management, air pollution/quality management, soil rehabilitation	Centralised composting plant	APBD (intergovernmental transfers outside DAK and PAD) and DAK. Other source of PAD is revenue sharing from tobacco sales tax
Pati District	1,243,000 (in 2009)	Water conservation, wastewater and air quality management, soil rehabilitation	No initiatives yet on climate change action	APBD (intergovernmental transfers outside DAK and PAD) and DAK
Tegal District	1,495,944 (in 2008)	Wastewater and air quality management, soil rehabilitation	No initiatives yet on climate change action	APBD (intergovernmental transfers outside DAK and PAD) and DAK
Semarang City	1,553,778	Waste, Wastewater and Air Quality management, ecosystem conservation, enforcement of environmental impact assessment (AMDAL)	Initiative on waste management: solid waste management by processing the organic waste into organic fertilizer (advanced composting system). MoU was signed with a private sector (PT. Narpati Agung Karya).	APBD (intergovernmental transfers outside DAK and PAD) and DAK.
Pekalongan City	282,137	Waste, Wastewater and Air Quality management, enforcement of	Energy efficient street lighting by installation of LED, community based composting center,	APBD (intergovernmental transfers outside DAK and PAD) and DAK



District/cities	Population (2010)*	District/City priorities on environmental measures	Initiatives related to climate change	Source of Financing
		environmental regulation, spatial planning	development on spatial planning regulation for the city to support urban greening	
Magelang City	118,316	Waste, Wastewater and Air Quality management, soil rehabilitation, forest conservation	development on spatial planning regulation for the city to support urban greening	APBD (intergovernmental transfers outside DAK and PAD) and DAK
East Java				
Lamongan District	1,439,886 (in 2008)		Initiative on solar energy for street lighting, development of biofuel supply industry (jatropha curcas plantation)	APBD (intergovernmental transfers outside DAK and PAD) and DAK. CSR
Malang District	2.442.422 (in 2007)	Enforcement of Environmental Impact Assessment (AMDAL)	Solar and biogas energy for household electricity needs, wastewater to energy (from organic industrial wastewater)	APBD (intergovernmental transfers outside DAK and PAD) and DAK CSR
Mojokerto City	120,132	Development of law on spatial planning for urban greening (currently there is no local regulation on spatial planning) Waste management Community based sanitation	Energy efficient street lighting, composting, and replacement of open dumping method to sanitary landfill for waste management	APBD (intergovernmental transfers outside DAK and PAD) and DAK. Other source of PAD is revenue sharing from tobacco sales tax.
Pasuruan City	186,322	Development of law on spatial planning for urban greening (currently there is no local regulation on spatial planning) Waste management	Composting	APBD (intergovernmental transfers outside DAK and PAD) and DAK
Probolinggo City	216,967	Spatial planning for urban greening Community based sanitation	City composting unit, Energy efficient street lighting by installation of LED	APBD (intergovernmental transfers outside DAK and PAD) and DAK. Probolinggo received <i>Dana Percepatan Daerah (DPD)</i> for urban greening and <i>dana penguatan infrastruktur daerah (DPIDP)</i> for sanitary landfill development CSR (83 companies are participating) for tree planting program, community waste



District/cities	Population (2010)*	District/City priorities on environmental measures	Initiatives related to climate change	Source of Financing
				collection tools
Surabaya City	2,765,908	Enforcement of Environmental Impact Assessment (AMDAL), spatial planning for urban greening	Solar cell installation for rail warning system, Energy efficient street lighting by installation of LED	APBD (intergovernmental transfers outside DAK and PAD) and DAK

*Source: www.citypopulation.de/Indonesia-Mun.html



APPENDIX E: INTERVIEW WITH RELATED LINE MINISTRIES AND INSTITUTIONS

Date	8 February 2011
Meeting with	Prof. Dr. Singgih Riphath (Head of Climate Management Unit) Noeroso L. Wahyudi (Climate Management Unit)
Office	Fiscal Policy Office, Ministry of Finance

Points from the interview:

- The interview starts with an update on the progress in climate change financing initiated by the Fiscal Policy Office (*Badan Kebijakan Fiskal*) of the Ministry of Finance, in which the Climate Management Unit is a unit under this office. **The Climate Management Unit is the liaison on climate issues in the Fiscal Policy Office (FPO).** The FPO has several initiatives under the pipe line, including ideas on Special Allocation Block (DAK) specifically for Climate Change mitigation and adaptation issues (DAK-CC), ideas on DAK REDD, advancement of carbon market in Indonesia, follow-up to the Greenpaper-Ministry of Finance study, geothermal energy policy, and also initiative with World Bank on CTF/CIF (Clean Investment Fund) for Indonesian projects.
- However, the **DAK ideas in the field of CC and REDD are still on hold, as the idea on what should be targeted/financed under this DAK in relation to CC and REDD are not yet well defined.** Concept of REDD, for example, are still under discussion, coordinated by the Ministry of Forestry.
- **DAK Forestry:** To date, DAK for Forestry is dedicated for rehabilitation of forest and land especially to increase the carrying capacity of watershed (*daerah alisan sungai*) area. A specific guideline on this DAK Forestry is available under the Ministry of Forestry Regulation (Peraturan Menhut RI No. P.3/Menhut-II/2011) for the DAK year 2011. District/City/Province awarded DAK-Kehutanan (DAK Forestry) are required to provide 10% co-funding (*dana pendamping*). From the experience of the current DAK Kehutanan, it is concluded that **DAK is a financing tool for policy, and it could not serve as incentive tool because the source of finance is from the National Budget APBN. Taking into account APBN is based on ex-ante budget assessment, DAK could not serve as funding given after the program/action (as how an incentive scheme will work) or ex-post.**
- There is also discussion on taking advantage of voluntary domestic carbon market, which is also currently discussed together with the National Council on Climate Change (DNPI).
- In 2010, Indonesia has engaged in the World Bank-Clean Technology Fund to expand large-scale geothermal plants and to accelerate initiatives to promote energy efficiency and renewable energy by creating risk-sharing facilities and addressing financing barriers to small- and medium-scale investments.



Date	9 February 2011
Meeting with	Syamsidar (Weather and Climate Unit)
Office	Environmental Affairs, National Development Planning Agency (BAPPENAS)

Points from the interview:

- The National Development Planning Agency (BAPPENAS) leads the development of an Indonesia Climate Change Trust Fund (<http://www.icctf.org/>). **ICCTF is a trust fund developed by the government of Indonesia to improve aid coordination to achieve Indonesia's goal for a low carbon economy and for greater resilience to climate change.** The Trust Fund currently operates under 3 investment window: 1) Energy & Energy Efficiency; 2) Sustainable Forestry and Peat land Management; 3) Resilience in sectors including agriculture, water resources and coastal zone management. UNDP is currently acting as Interim Fund Manager for ICCTF, while BAPPENAS settle the legal status of the Trust Fund.
- ICCTF have received USD 8,514,883 from DFID and AusAID, and the project document has been signed with BAPPENAS as the Government Implementing Partner under the National Implementation Modality. **The ICCTF Steering Committee have approved three (3) climate change initiatives, after a national wide call for project, to be implemented by line ministries: 1) Implementation of Energy Conservation and CO2 Emission Reduction in Industrial Sector (Phase 1) – Ministry of Industry; 2) Research and Technology Development of Sustainable Peat land management to enhance carbon sequestration and mitigation of GHG – Ministry of Agriculture; 3) Adaptation and Resilience Public Awareness – Meteorological, Climatological, and Geophysical Agency.**
- With regards to discussion on loan for city/district government, Ms. Syamsidar explained that governance and capacity in managing loan by local government is still an issue. An example of international loan to local government that was unsuccessful is the loan from overseas to the government of city of Jakarta for the development of monorail. **In the experience of BAPPENAS, overseas development loan would prefer partnering with central government rather than the local government for loans because it ensures guarantee from the government of Indonesia.**
- BAPPENAS is also considering a DAK specifically for Climate Change based on the draft regulation of National Action Plan on Emission Reduction (RAN-GRK). **They need input on criteria formula for recipient that would work generally for all city/district/province in Indonesia and at the same time reflects the objective of the RAN-GRK (Co-benefit).**
- BAPPENAS is currently developing a guideline for local government to develop their own Action Plan on Emission Reduction (*Petunjuk Teknis RAD-GRK Rencana Aksi Daerah Gas Rumah Kaca*).

Date	10 February 2011
Meeting with	Björn Thies (Director)
Office	KfW Jakarta Indonesia

Points from the interview:

- KfW currently implements a scheme to provide loan for landfill projects in cities in Indonesia. This loan finances includes a comprehensive solid waste management of sorting, recycling, CDM and composting. A grant precedes the loan scheme to conduct feasibility study which includes assessment of technical aspect as well as economic viability of Integrated Municipal Solid Wastes in interested eligible cities.



The project was partnered with the Ministry of Public Works. The Ministry of Public Works started with conducting a roadshow which is followed by a call for proposal, where 11 cities then submitted. A pre-feasibility study done with KfW grant for 11 cities. Four (4) cities were chosen among them for feasibility study. Feasibility study include technical, institutional, cost and economic viability, and capacity.

- **Based on KfW experience, the city/district governments lack capacity in negotiation especially on the legal matters. KfW prefers to conduct agreement negotiation with central government.**
- **KfW also have experience in providing loans for equipment for alternative energy, for small and medium enterprises together with the Ministry of Environment.** In this experience, national bank was chosen to administer the fund and the Ministry of Environment assesses the proposal. During the course of the loan scheme execution, it was identified that capacity for assessing economic viability of the Lessons learned from this experience for assessing economic viability of the projects. This capacity is not available in the Ministry of Environment.

Date	11 February 2011
Meeting with	Askolani (Head of Center for Budget Policy)
Office	Fiscal Policy Office, Ministry of Finance

Points from the interview:

- The Ministry of Finance have initiated **import duty waiver for equipment related to promotion of renewable energy**. Partnering with line Ministries, the Ministry of Finance also initiated a listing of equipment/import product relevant to the promotion of renewable and energy efficiency, including hybrid cars. However, there is still lack of information from line Ministries concerning the detail specification of equipment to be waived.
- The Ministry of Finance have also budgeted 300 billion rupiah for adaptation and mitigation action under the National Budget 2011 (Undang-undang APBN 2011), however **the funding have not been optimally utilized especially by related line ministries**.
- The Head of Center for Budget Policy also informed the availability of funding for local government that is organized by related line Ministries. For example, although there is currently a DAK for Rural Electrification, however, there are significant funding on Rural Electrification program that is directly coordinated by the Ministry of Energy and Mineral Resources (ESDM).

Date	14 February 2011
Meeting	Julia Rahmi (Staff)
Office	Government Investment Unit (Pusat Investasi Pemerintah), Ministry of Finance

Points from the interview:

- The Government Investment Unit (PIP) under the Ministry of Finance aims at support financing for public services, such as hospital development, school development in partnership with local government. In the process the Unit have develop the Indonesian Green Infrastructure Fund, a sub unit under PIP. However the legal issues on this are still in progress. The IGIF currently have funding from DFID, and have pilot projects in peat land in Borneo.



- There is also another channel of funding that is the Infrastructure Investment Fund lead by Risk Unit under the Fiscal Policy Office, Ministry of Finance that could also be synergies for high risk financing related to mitigation action. However, the Fund also has legal problems and is currently being sort-out.
