

CLIMATE CHANGE FINANCING FOR CITIES IN INDONESIA

Case Study: Kupang



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Author:

**Henriette Imelda
Torry Kuswardono
Fabby Tumiwa**

Editor:

Tracy Wright Webster

Design & illustrator:
Martin Dima

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CLIMATE CHANGE FINANCING IN INDONESIA: STATUS, OPPORTUNITIES AND GAPS

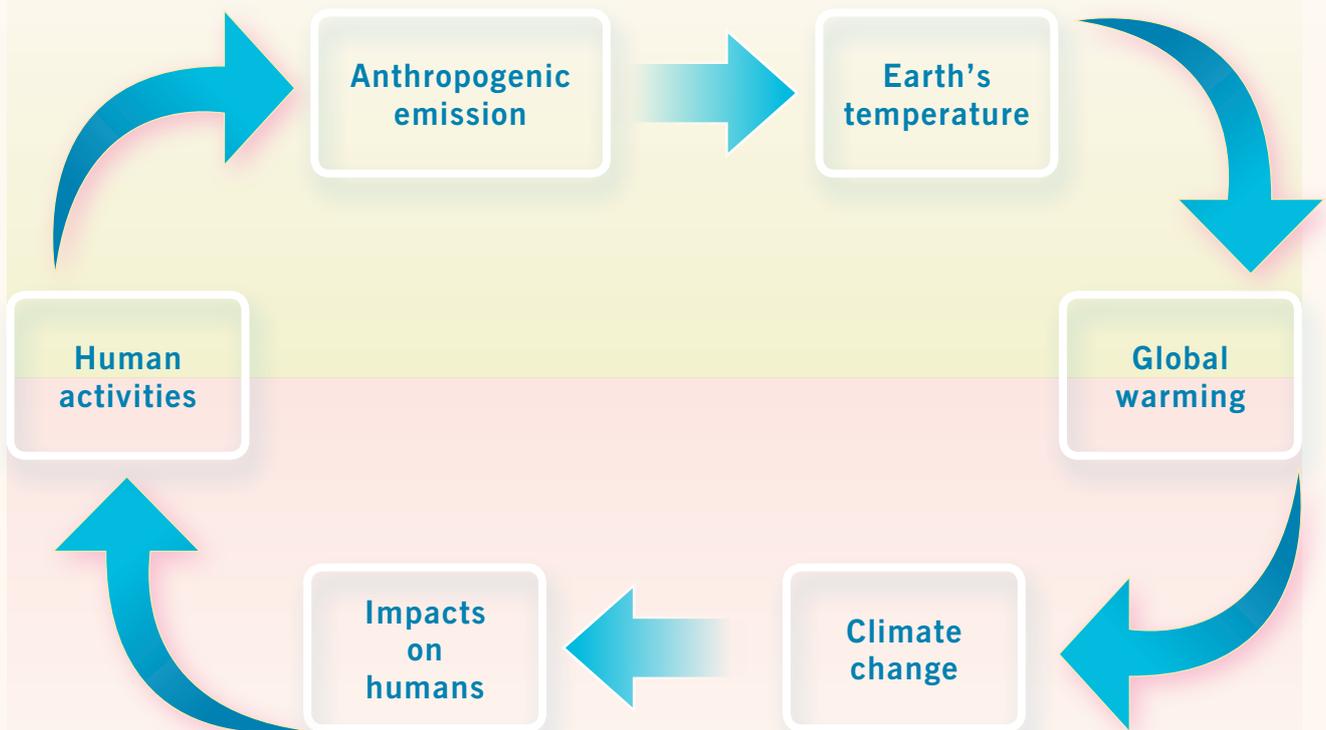
1. INTRODUCTION

Climate change is occurring and is worsening. Extreme weather, droughts and floods have resulted in economic losses that impact people and livelihoods. The IPCC Fifth Assessment Report says that the impacts of recent climate-related extremes, such as heat waves, droughts, floods, cyclones, and wildfires, reveal significant vulnerabilities and the exposure of some ecosystems and human systems to current climate variability (very high confidence). It also elaborates that the impacts of such climate-related extremes include alteration of ecosystems, disruption of food production and water supply, damage to infrastructure and settlements, morbidity and mortality, and consequences for human mental health and well-being. For countries at all levels of development, these impacts are consistent with a significant lack of preparedness for current climate variability in some sectors.¹

Although adapting to the impacts of climate change, for both rapid onset and slow onset change, is urgent, mitigation of climate change is equally important. It cannot be avoided that failure to mitigate will worsen the impact of climate change. Therefore, both mitigation and adaptation must be undertaken. Adaptation action should be in response to specific vulnerabilities and the impact of climate changes that threaten an area, while mitigation actions should cover activities to reduce greenhouse gas emissions (GHGs) from their source and slow the rate of GHG emissions in the future.

¹ IPCC. Fifth Assessment Report: Summary for policymakers on Impacts, Adaptation, and Vulnerability. 2014

MITIGATION



ADAPTATION

Figure 1 Diagram of cause and effects of climate change²

² IESR analysis

³ SED is Structured Expert Dialogue, was established by the COP in 2012 and aims to support the work of a Joint Contact Group of SBSTA and SBI and to ensure the scientific integrity of the review through a focused exchange of views, information and ideas. SED held four sessions and completed its work in February 2015. (http://unfccc.int/science/workstreams/the_2013-2015_review/items/7521.php)

⁴ Climate Analytics. 1.5°C risks and feasibility. 2015.

⁵ Climate Analytics. 1.5°C risks and feasibility. 2015.

The COP 21 Paris conducted at the end of 2015 pushes Parties to come to an agreement to engage in collective efforts to avoid incremental temperature increases beyond 1.5°C or 2°C. The SED³ report has stated that at 0.8°C warming, climate change poses severe challenges to populations, beyond the current adaptive capacities of many people.⁴ The SED report⁵ para 108 also says, “Experts emphasized the high likelihood of meaningful differences between 1.5°C and 2°C of warming regarding the level of risk from ocean acidification and of extreme events or tipping points, because impacts are already occurring at the current levels of warming; risks will increase with further temperature rise.” The SED report also presents the impact of climate change experienced when the average temperature increases by 1.5°C and 2°C.

IMPACTS

AT 1.5°C

AT 2.0°C



Most terrestrial and marine species would be able to follow the speed of climate change

The rate of climate change would become too rapid for some species to move sufficiently fast



Ocean acidification impacts would stay at moderate level and up to half of coral reefs may remain

The risks for mass coral bleaching would become very high



Sea level rise may remain below 1 m

Long-term sea level rise may exceed 1 m



Some Arctic sea ice may remain

Arctic summer sea ice will be further significantly reduced



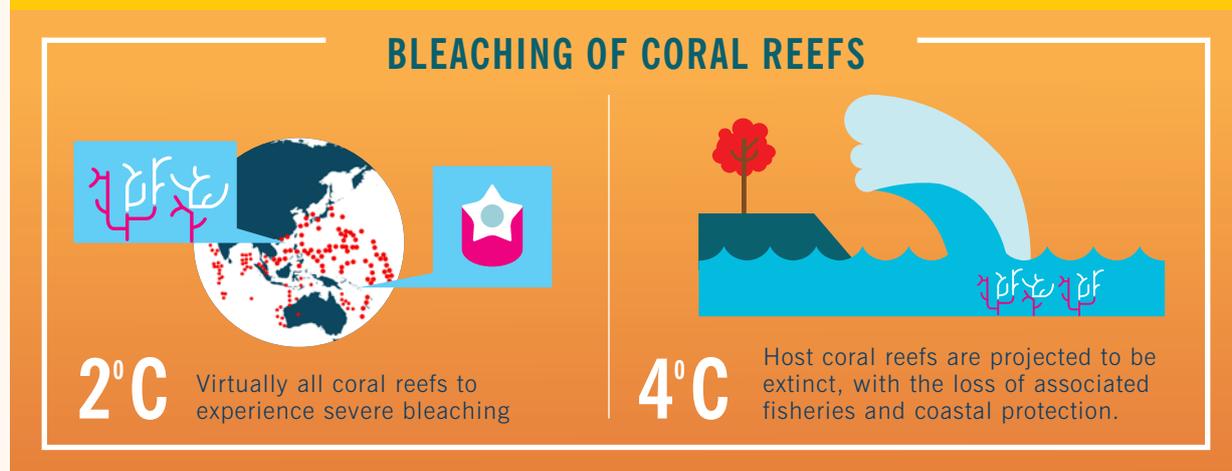
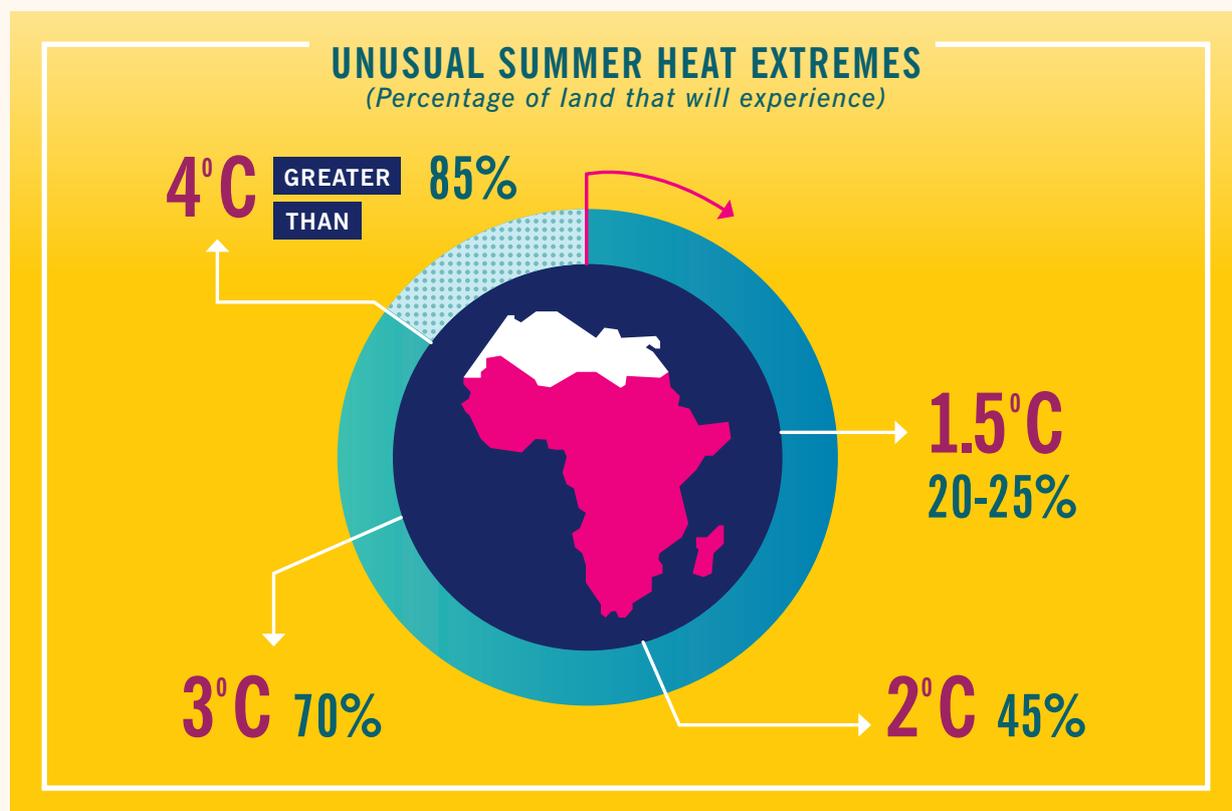
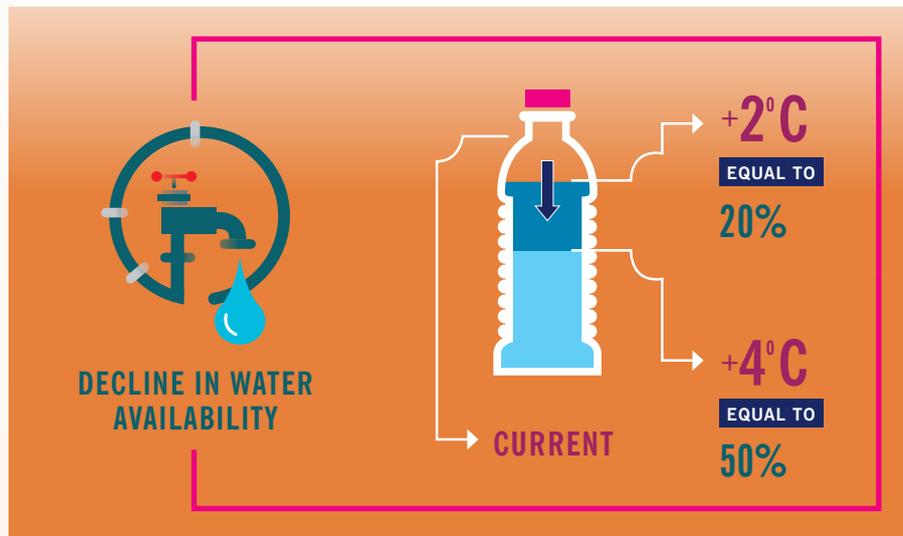
More scope for adaptation would exist, especially in the agricultural sector

Crop production would be at high risk with some potential for adaptation

Figure 2 Key impacts for 1.5°C and 2°C temperature increases as identified in the SED⁶

Figure 3
Climate change impacts that are increasing rapidly with temperature change.
7

Source:
World Bank, 2014,
Turn Down the Heat,
volume II



7 Slide 13 of the presentation by Mr. Stephane Hallegatte (World Bank) presented in the SED 4. The presentation can be downloaded through unfccc.int/files/science/workstreams/systematic_observation/application/pdf/141203_sed4_hallegatte.pdf

Figure 2 and Figure 3 affirm the urgency in implementing climate change mitigation measures if the world is to minimize the impact of climate change.

COP 19 in Warsaw introduced INDC (Intended Nationally Determined Contribution)⁸ that is applicable to all Parties. INDC is the intended contribution of the Parties to act to reduce greenhouse gas emissions beyond 2020. This implies that all Parties under The Convention shall engage in the intended climate actions to be conducted domestically, beyond 2020. At first, INDC was only intended for Parties to put forth their greenhouse gas emissions reduction actions. However, there were also Parties that included climate change adaptation as part of their INDC. For most developing countries, the inclusion of climate change adaptation actions in their INDC shows that they must cope with the impacts of climate change even in the absence of, or with limited support from, developed countries.

⁸ When formulated INDC was intended to cover only climate action on mitigation. However, COP 20 in Lima decided to welcome intended contributions for adaptation as well as the means of implementation.

⁹ <http://climateaction-tracker.org/global/173/CAT-Emissions-Gaps.html>

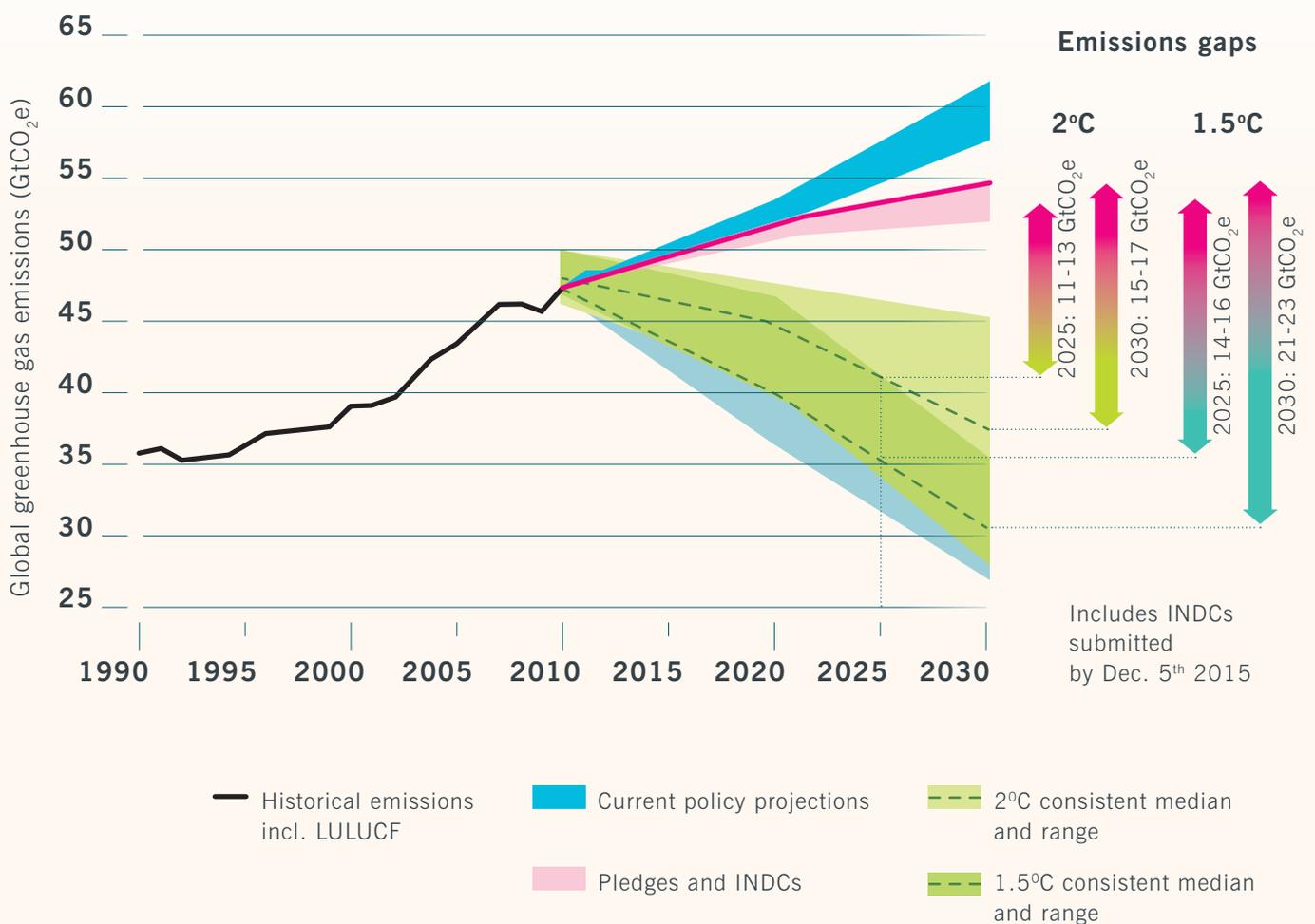
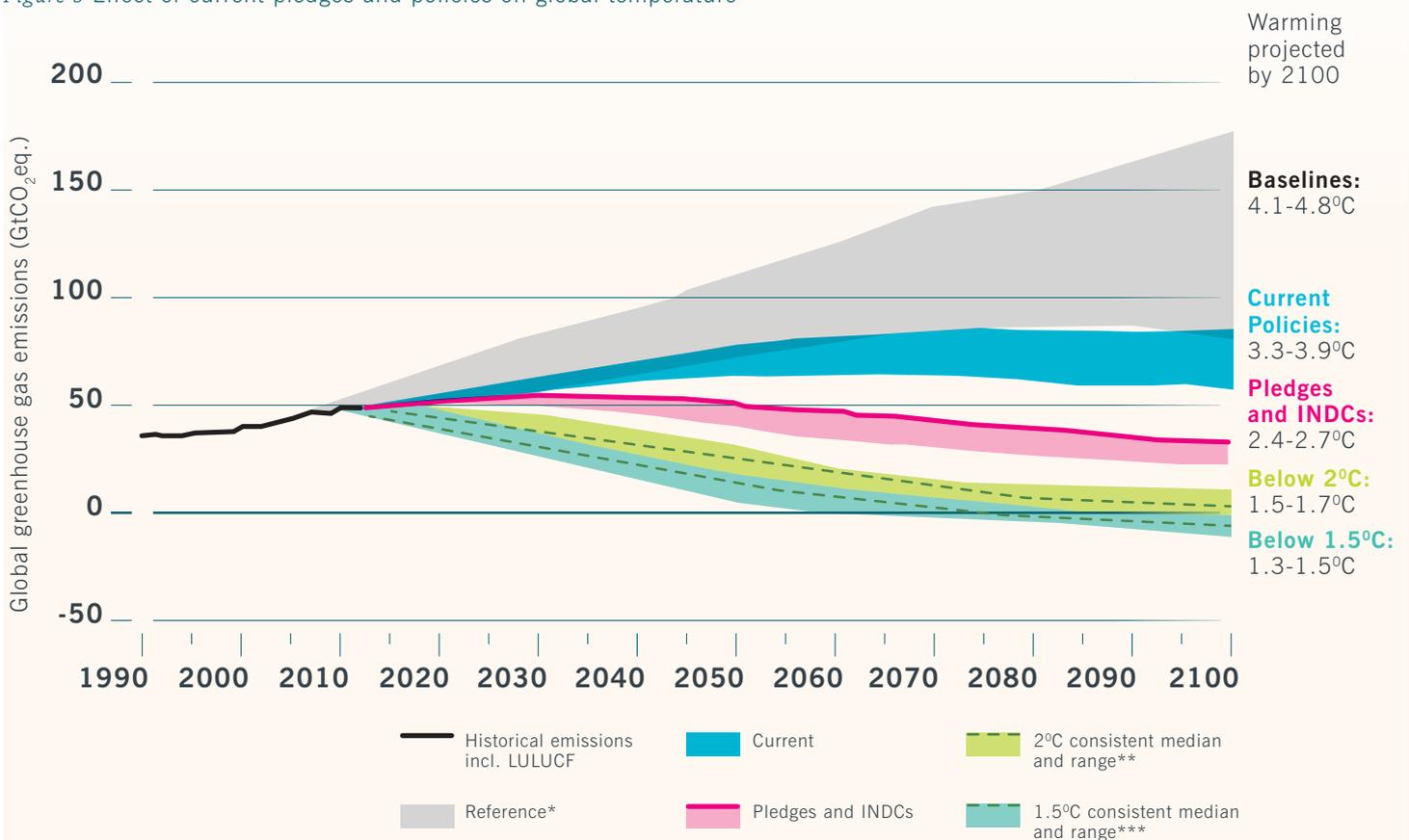


Figure 4 Emissions gaps⁹

The UNFCCC Secretariat had produced a technical paper that consists of the aggregates of the collected INDCs, prior to COP 21. The paper represents emissions reduction pledges from 162 INDCs that are representative of 189 countries. The technical paper shows that in aggregate, the current INDCs will result in increasing temperatures of between 2.4°C – 3.4°C by 2100. This means that the collected INDCs are not sufficient to avoid an average temperature increase of 1.5°C or even 2°C. Therefore, a more ambitious target on reduction of greenhouse gas emissions needs to be applied. Having said that, it was expected that each Party review its INDCs to seek opportunities to increase its mitigation targets, which reflects its level of contribution to global greenhouse gas emissions, considering its national circumstances and respective capabilities. The reviewed INDCs shall then be submitted as the Party’s NDC.

¹⁰ <http://climateaction-tracker.org/global.html>

Figure 5 Effect of current pledges and policies on global temperature¹⁰



© www.climateactiontracker.org/
Climate Analytics/Ecofys/
NewClimate/PIK

- * 5%-95% percentile of ARS WGIII scenarios in concentration category 7, containing 64% of the baseline scenarios assessed by the IPCC
- ** Greater than 66% chance of staying within 2°C in 2100. Median and 10th to 90th percentile range. Pathway range excludes delayed action scenarios and any that deviate more than 5% from historic emissions in 2010.
- *** Greater than or equal to 50% chance of staying below 1.5°C in 2100. Median and 10th to 90th percentile range. Pathway range excludes delayed action scenarios and any that deviate more than 5% from historic emissions in 2010.

The UNEP Emission Gap Report 2015 states that there is significant potential for ICIs (International Cooperative Initiatives) to close the emissions gap. The Emission Gap Report states that by including those initiatives, around 2.5 - 4 Gton CO₂-eq in 2020, if fully implemented.¹¹ The Emission Gap Report in 2011 estimated that the emissions gap in 2020 will be around 11 Gton CO₂-eq/year if the pledges are at low ambition, but can be narrowed down to 6 Gton CO₂-eq/year¹², if the pledges are at high ambition. This means that ICI can contribute to close the gap up to 30%.¹³ Some of the initiatives that the report examined were the initiatives conducted by cities, such as C40 Climate Cities Leadership Group and Compact Mayors. C40's flagship research publication in 2016 estimated that there is a potential to expand C40 cities' climate action to more than 26,000 specific activities, programmes, procurements and policies. Among these, 2,300 were identified as high-impact, readily deliverable actions that could save a massive 450 Mton CO₂-eq by 2020, this could be unlocked with USD 6.8 billion. The same publication also recognized the existence of 10,000 climate actions already underway in C40 cities, which are potentially saving up to 645 Mton CO₂-eq by 2020 and reducing the risks of climate change.¹⁴ Therefore, looking at climate actions at the cities level is crucial in order to achieve the target to reduce greenhouse gas emissions in a country.

1.1. COST OF CLIMATE ACTIONS AND AVAILABILITY OF FUNDS

Financing holds an important role in the implementation of climate actions, especially for developing countries. Developing countries need to overcome their development challenges, such as with the issues of economic growth and poverty, which will be greater due to the impact of climate change. The impacts of climate change may destroy the facilities required to develop, and necessitate greater need for investment.

There is various information on the financial needs for climate actions, both in terms of mitigation and adaptation. ODI and HBF¹⁵ have collected estimations of the incremental costs of adaptation and mitigation in developing countries from various sources to determine

¹¹ UNEP. Emission Gap Report 2015.

¹² UNEP. Emission Gap Report 2011.

¹³ IESR's estimation.

¹⁴ C40 cities climate leadership group. Unlocking climate action in megacities. 2016.

¹⁵ <http://www.climatefund-supdate.org/resources/estimated-costs-climate-change>

the estimated financial requirements as well as the availability of funds. The World Bank, for instance, has estimated that the incremental costs for adaptation in developing countries between 2010 and 2050 will reach USD 70-100 billion per annum, while for mitigation will be around USD 265-565 billion per annum by 2030.

¹⁶ <http://www.climatefund-supdate.org/resources/estimated-costs-climate-change>

Table 1 Estimated incremental costs of adaptation in developing countries (USD billion per annum)¹⁶

STUDY	2010-2015	2010-2020	2030	2010-2050	METHOD
World Development Report (2010)				30-100	Compiled several estimations of adaptation costs (including others in this list) with scenarios of 450 ppm, 2005 USD
World Bank EACC (2010)				70-100	Average annual adaptation costs from 2010 to 2050 in the agriculture, forestry, fisheries, infrastructure, water resource management, and coastal zone sectors, including impacts on health, ecosystem services, and the effects of extreme weather events. In 2005, USD
Project Catalyst (2009)		13-38			Estimates only public needs in vulnerable countries using costs from NAPAs, increased funding of public goods and disaster support. Assumes 450 stabilization, USD 1.25 to EUR 1 exchange rate
UNFCCC (2009)			26-67		Including: agriculture, forestry and fisheries, water supply, human health, coastal zones, infrastructure, and ecosystems. In 2005, USD, between 450 and 550 ppm.
Oxfam (2007)	> 50				Based on World Bank (2006), plus extrapolation of costs from NAPAs and NGO projects
UNDP HDR (2007)	86-109				Builds on World Bank (2006), plus cost of adapting Poverty Reduction Strategy Papers and strengthening disaster response
World Bank (2006)	9-41				Cost of climate proofing ODA, foreign and domestic investment
Stern Review (2006)	4-37				Aiming for 450 ppm stabilisation

Table 2 Estimation of the incremental investments of mitigation in developing countries (USD billion per annum)¹⁷

STUDY	2010-2020	2030	METHOD
World Bank (2010)		265-565	Compiled several estimates of incremental investment (including others in this list) with scenarios of 450 ppm, 2005, USD
Project Catalyst (2009)	69-100		The report estimates incremental costs, but is considered investment as the transaction costs and associated technology costs are added to cost estimates 450 stabilisation, USD 1.25 to EUR 1 exchange rate
McKinsey & Co. (2009)	212	324	All mitigation options, 450 ppm, 2005 USD (converted at USD 1.5: EUR 1). Based on statement that 60% investment is required in developing countries (report figures not split by developed/developing countries)
Haites (2008)		80	Brief report, 2005 USD
UNFCCC (2008)		156-165	An update on the UNFCCC (2007) report adds “170%” to mitigation investment, although no breakdown of the figure is given
UNFCCC (2007)		92-97	All mitigation options, including REDD, in 2005 USD between 450 and 550 ppm

¹⁷ <http://www.climatefundsup-date.org/resources/estimated-costs-climate-change>

¹⁸ UNFCCC Standing Committee on Finance. 2014 Biennial Assessment and Overview of Climate Finance Flows Report. UNFCCC.

¹⁹ Using a mix of 2010, 2011 and 2012 data.

²⁰ IPCC. Fifth Assessment Report Chapter 16 Working Group III on Cross-cutting Investment and Finance Issues. 2014.

²¹ Using a mix of 2009, 2010, 2011 and 2012 data (medium confidence).

The first Biennial Assessment Report of Standing Committee on Finance in 2014 recorded that financial flow in 2010-2012 for climate change adaptation was much lower (around 11–24%) compared to climate change mitigation.¹⁸ However, there is also evidence that adaptation finance has been increasing, but remains a small share of the estimates done by the SCF. The fifth assessment report of IPCC estimated that total climate finance for mitigation and adaptation is estimated at between USD 343 to 385 billion per year,¹⁹ almost evenly being invested in developed and developing countries (medium confidence). IPCC (2014)²⁰ also estimated the total climate finance that flows to developing countries was between USD 39–120 billion per year.²¹

According to the data provided by ODI and HBF in Figure 7, although the pledge funding reached almost USD 40 billion, the approval (the money that can be used as of today) is only around USD 15 billion.

²² OECD. Cities and Climate Change: Policy Perspectives National governments enabling local action. September 2014.

²³ <http://www.climatefundsup-date.org/data>

OECD has indicated that in order to meet the increasing demand to expand and renew urban infrastructure, physical capital investment of over USD 20 trillion by 2025 will be required mostly in emerging economies.²²



By looking at the total aggregate financial needs as stated in Table 1 and Table 2, and comparing it with the available funding in Figure 6, a huge funding gap is evident.

1.2. FINANCING IN THE PARIS AGREEMENT AND ITS IMPACT ON INDONESIA

Paris Agreement is an important milestone for all Parties under UNFCCC to work together to achieve the ultimate goal of the Convention, where finance becomes an important part of the Agreement. Parties have agreed to the two parts in COP 21 Paris: the 2016-2020 part (pre-2020) and the after the year 2020 (post-2020) part; and both parts are inseparable. In the pre-2020 part, parties agreed on:

(i) Allocation of the financial resources for adaptation and mitigation (para 52).

This para emphasizes that the use of financial resources provided to developing country Parties should enhance the implementation of developing countries' policies, strategies, regulations and action plans which integrate climate actions with respect to both mitigation and adaptation. This implies that climate finance should be allocated for both mitigation and adaptation, with activities that will enable Parties to implement their policies, strategies, and regulations, as well as a climate change related action plan. However, this para also recognizes the importance of Parties to have climate change related policies, strategies, regulations and action plans. In the Indonesian context, this should not only be available at the national level, but also at the local level. This also should not only be applied to government bodies, but also to civil society organizations and the private sector.

(ii) Mobilization of climate finance (para 53).

This para recalls the willingness of developed countries to mobilize USD 100 billion by 2025, with a minimal increase of USD 100 billion per year thereafter. This, however, should also be driven by the needs and priorities of developing countries. This para implies that funding will only be granted to developing countries that have already indicated their needs and priorities. Indonesia will need to encourage not only the national government, but also sub-national levels of government, to indicate their clear climate related needs and priorities in order to make use of the available funds as stated in this para.

(iii) MRV of support, including on how developed countries shall provide adequate and predictable financial sources.

MRV (Monitoring, Reporting, and Verifying) of support to be developed and implemented means that all Parties need to establish a robust mechanism to enable the process of conducting MRV in tracking the funding; both as financial contributor or recipient. The Paris Agreement also acknowledges the role of non-state actors (NSA) in conducting climate actions, both for adaptation and mitigation. However, in order to include their actions as a contribution to the achievement of the national target, Parties need to have a robust MRV mechanism, which can include the work of local governments, CSOs, and the private sector. This is a big challenge for Indonesia, where the existing MRV mechanism applies only to activities conducted by the central government.²⁴

(iv) Delivery channel for climate finance.

The Paris Agreement endorses all operating entities of the financial mechanism under Article 11 of the Convention, to serve the implementation of Paris Agreement to deliver the available funds to recipient countries. The mentioned operating entities are Global Environmental Facility (GEF) and Green Climate Fund (GCF). Indonesia can make use of GEF funding, as it is still considered a developing country and is therefore eligible to receive a STAR allocation. If a country is entitled to a STAR allocation it does not have to compete with other countries to get funding, unless it is among those countries at the top of the STAR allocation. However, it should be noted that the amount of funding through GEF for climate change is currently decreasing. Another operating entity is Green Climate Fund (GCF) which will disburse funding through implementing entities that are accredited by the Fund. It is important for Indonesia to have accredited national implementing entities that are eligible to access the Fund directly, in order to make use of the Fund. However, having accredited national implementing entities, is not

²⁴ <http://iesr.or.id/2016/05/semiloka-memperkuat-kontribusi-non-state-actors-nsa-untuk-percepatan-implementasi-aksi-perubahan-iklim-di-indonesia/>



UNLESS INDONESIA PUTS GREATER EFFORT INTO ENCOURAGING MORE ACCREDITED NATIONAL IMPLEMENTING ENTITIES, THE LIKELIHOOD THAT INDONESIA WILL BE ABLE TO ACCESS THE GREEN CLIMATE FUND WILL BE LOW.

easy. IESR, in their discussion report²⁵ on accessing GCF, states that there are many hurdles that need to be overcome for an entity to be accredited. In the Indonesian context, these hurdles include language and procurement procedures, among others. Efforts to gain accreditation have resulted in increased costs to the interested entities in terms of financial expenditure, energy, and time. Unless Indonesia puts greater effort into encouraging more accredited national implementing entities, the likelihood that Indonesia will be able to access the Green Climate Fund will be low. Moreover, the GCF's policy of locking 50% of funding for adaptation to LDCs and SIDS, has led many international entities to access the fund by conducting projects to support LDCs and SIDS, rather than developing countries like Indonesia, which are considered emerging developing countries. Nevertheless, the potential for Indonesia to access the fund remains, through accredited national implementing entities.

In the light of the Paris Agreement, where it is expected that Parties will have a Nationally Determined Contribution (NDC) to be implemented by 2020, Indonesia needs to start thinking about how to mobilize financing beyond the national budget and even beyond international and bilateral financing schemes. Although Indonesia is eligible to access the funds available at the international level, it still needs to consider how to mobilize domestic climate finance to ensure the achievement of sustainable low emissions and climate resilient development, which shall be achieved by engaging other stakeholders such as Civil Society Organizations (CSOs) and the private sector.

²⁵ Imelda, H., Tumiwa, F. Strengthening Direct Access to Green Climate Fund by Indonesia's Entities. IESR. November, 2015.

1.3. CLIMATE FINANCE AND ITS RELEVANCE TO INDONESIA

After Indonesia announced its commitment in 2009 to reduce greenhouse gas emissions by 26% by 2020, the Ministry of Finance developed a mitigation fiscal framework to see whether Indonesia's public financing can support the achievement of the 26% target, what can be done to identify the possible gap, and any further actions required to close the gap.

The Ministry of Finance estimated that the indicative costs for mitigation action as listed in the national action plan for greenhouse gas emissions (RAN-GRK) is around IDR 225.525,47 trillion for core actions and IDR 18.492,52 trillion for supporting actions.

Table 3 Indicative costs for mitigation actions listed in RAN GRK (2010-2020)²⁶

SECTOR	CORE ACTIONS*	SUPPORTING ACTIONS*
Forestry and peat-land	94.654,18	6.955,54
Energy and transportation	48.357,89	2.286,10
Agriculture	36.804,07	882,10
Industry	1.000,00	1.290,00
Waste	44.709,33	4.949,52
Others	-	2.129,26
TOTAL	225.525,47	18.492,52

In the mitigation fiscal framework, it is indicated that more investment and funding are required to achieve the climate action targets to enable Indonesia not only to meeting its emissions reductions target by 2020, but also to continue reducing its emissions beyond 2020. This implies that Indonesia needs to continue to allocate budget funding for climate actions over the longer term.

²⁶ Syurkani Ishak Kasim, Ph.D. Climate Finance: Experience from Indonesia. Fiscal Policy Agency, Ministry of Finance, Indonesia, presentation delivered on March 31st 2016.

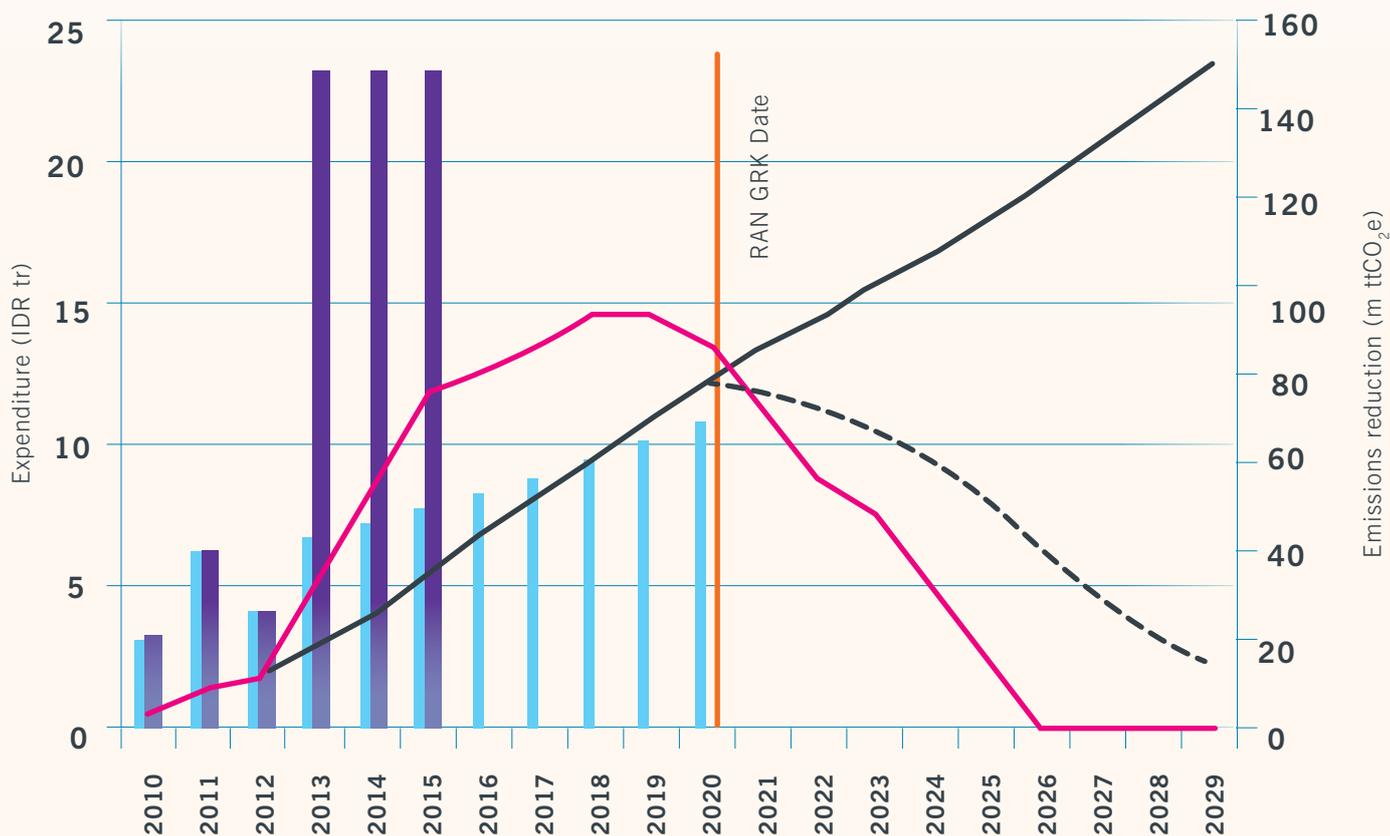
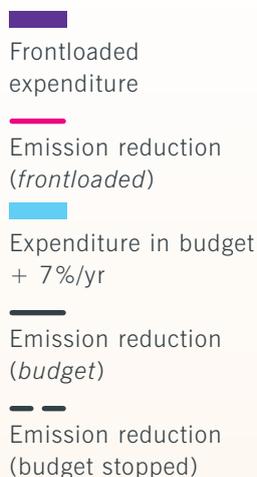


Figure 7 Emission reduction streams with front-loaded and growing expenditure²⁷



The mitigation fiscal framework shows that Indonesia’s current expenditure will only bring about a reduction of around 116 million ton CO₂-eq by 2020, which is equivalent to 15% of the total emissions reductions target. Indonesia needs to work more to achieve its 26% reduction target, but also to develop an effective enabling environment to engage more stakeholders, such as from the private sector, in order to reduce greenhouse gas emissions.

On adaptation, Bappenas has indicated the financial cost of implementing Indonesia’s national action plan on climate change adaptation is IDR 840.312 billion in total until 2020. Bappenas indicated that the source of finance for the implementation of the plan will come from national budget, as a national adaptation plan is already integrated in the national medium-term development plan.²⁸ However, other sources of financing such as public–private–partnerships and international supports are also included in the financing scenario of the national adaptation plan.²⁹

²⁶ Ministry of Finance. Indonesia’s First Mitigation Fiscal Framework. 2012.

²⁸ Endah Murniningtyas. Presentation: Adaptasi Perubahan Iklim dan Pengurangan Risiko Bencana dalam Tujuan Pembangunan Berkelanjutan (SDGs). 2015. Delivered at National DRR Month in 2015, Surakarta, 17 October, 2015.

²⁹ Bappenas. Indonesia’s National Action Plan on Climate Change Adaptation. 2014.

Table 4 Total financial needs for the National Adaptation Plan of Indonesia³⁰

SECTOR/SUB-SECTOR	BUDGET (IDR BILLION)
1. Economy resilience, including food security and energy self sufficient	176.600,1
2. Livelihood system resilience, including health, residential, infrastructure	193.764,2
3. Ecosystem resilience	428.124,8
4. Special area resilience, including urban, coastal and small islands	40.290,9
5. Supporting system	1.532,0
TOTAL	840.312,0

1.4. INDONESIA'S READINESS FOR CLIMATE FINANCE

The scale of financing needed to conduct mitigation and adaptation requires a country to be able to access the financial resources available, combined with the public finance availability, and channel these resources into climate mitigation and adaptation actions. Readiness for climate finance is defined as the capacities of countries to plan for, access, deliver, monitor, and report on climate finance, both international and domestic, in ways that are catalytic and fully integrated with national development priorities and achievement of MDGs (UNDP, 2012).³¹

³⁰ Bappenas. *Institusi Pendanaan dan Strategi Pendanaan Kegiatan Adaptasi Perubahan Iklim di Indonesia*. Delivered at IESR's FGD on July 26th 2013. Excerpt from http://www.iesr.or.id/wp-content/uploads/Institusi-dan-Strategi-Pendanaan-API_final.pdf

³¹ UNDP (2012). *Readiness for Climate Finance*, accessed from https://mitigationpartnership.net/sites/default/files/undp_readiness_for_climate_finance.pdf

³² Dennis Tanzler and Martha Maulidia. *Status of Climate Finance in Indonesia*. GIZ. August 2013.

Tanzler and Maulidia (2013),³² examined Indonesia's readiness to absorb the existing climate finance potential as well as its capacity to spend it solely on climate activities, especially after the Copenhagen Accord where mobilization of USD 100 billion of new and additional public and private finance by 2020 was agreed to be used to support climate change actions in developing countries. In light of the Paris Agreement, the potential funding has been escalated to be USD 100 billion floor per year after 2025. This is a good opportunity for Indonesia; its readiness, however, remains questionable.



TANZLER AND MAULIDIA (2013) OBSERVED FOUR ASPECTS WHICH DEFINE INDONESIA'S READINESS: PLANNING CAPACITY, ACCESSING FINANCE, GOOD FINANCIAL GOVERNANCE, AND PRIVATE SECTOR ENGAGEMENT.

Tanzler and Maulidia (2013) observed four aspects which define Indonesia's readiness: planning capacity, accessing finance, good financial governance, and private sector engagement. In terms of planning capacity, although Indonesia is quite advanced in mitigation planning, it lags behind in adaptation planning. Indonesia is perceived to focus more on mitigation, this leads to the necessity for adaptation planning to catch up with mitigation. In terms of planning capacity, there is no donor coordination mechanism in place. Capacity at the local level also needs to be addressed through strengthening the capacities of stakeholders in delivering climate change plans and financing at the sub-national and sectoral levels.

Four pillars were then suggested by Tanzler and Maulidia (2013) to improve Indonesia's readiness to absorb international climate finance: **(i)** supporting capacities for multi-level planning, programming and coordination; **(ii)** institutional strengthening to meet financial access requirements; **(iii)** providing good financial governance, including sound MRV systems; and **(iv)** increasing efforts to engage the private sector.

On accessing finance, PT Sarana Multi Infrastruktur (PT SMI), a government-owned financial company, is currently undergoing the process of accreditation as a national implementing entity of the Green Climate Fund. While on the Adaptation Fund, the Partnership for Governance Reform/Kemitraan, an NGO's donor, has been accredited as the national implementing entities.

Tanzler and Maulidia (2013) also identified the need to improve access to funding at the sub-national level. It was indicated that current policies and the legal framework at the sub-national level are not adequate to facilitate climate finance delivery and management. Specific purpose grants (DAK), for instance, can be one of the instruments with which to access funding available for climate action activities. However, this should be supported by the amendment on the intergovernmental fiscal transfer via DAK regulation, in order for climate change aspects to be reflected.

In relation to good financial governance, the Indonesian government has been trying to introduce performance based budgeting since 2005, in order to improve the efficiency of use of all funds channeled through the annual national budget.³³ A systematic MRV of finance is also needed, which requires that the Ministry of Finance and Bappenas put in place a systematic monitoring and evaluation system for tracking national and international climate finance flows, for adaptation as well as mitigation activity. This also implies that the MRV mechanism should be integrated into national and local climate planning.³⁴

On private sector engagement, Tanzler and Maulidia (2013) highlight the importance of having innovative policy approaches to improve private sector engagement. These approaches can be in terms of having a favorable market situation and related policies and programmes (e.g. tax incentives, low cost debt financing, R&D support) set up by the government which could place the right triggers in place for more private investment in low carbon growth. To increase the involvement of the private sector, it is also suggested that Indonesia needs to reform its domestic policy. Its energy pricing policy must reflect market reality and incentives should be given in terms of carbon pricing.³⁵

Based on their observations, Tanzler and Maulidia (2013) recommended several improvements to Indonesia to support access to and allocation of climate finance. The recommendations are as follows: **(i)** Indonesia needs to improve its adaptation and mitigation planning; **(ii)** Indonesia needs to strengthen its capacity for direct access to global financing sources; **(iii)** Indonesia needs to support climate finance delivery and absorption at the sub-national level; **(iv)** Indonesia needs to develop the MRV system for national climate finance management; **(v)** Indonesia needs to improve stakeholder coordination on climate finance; and **(vi)** Indonesia needs to step up private sector engagement, in order to increase national level readiness in receiving and managing climate finance.

³³ Dennis Tanzler, Martha Maulidia. Status of Climate Finance in Indonesia. GIZ. August 2013.

³⁴ Dennis Tanzler, Martha Maulidia. Status of Climate Finance in Indonesia. GIZ. August 2013.

³⁵ Dennis Tanzler, Martha Maulidia. Status of Climate Finance in Indonesia. GIZ. August 2013.

CITIES AND CLIMATE CHANGE

Big cities are alluring. People migrating to cities are attracted by more advanced public services such as schools, health services, higher education facilities, as well as greater employment and economic opportunities. The phenomenon of urbanization has resulted in the growth of urban populations. In Asia, urbanization is a mega-trend, in which capital cities and other big cities are the focus. With a total population of more than 630 million in 2015, ASEAN countries are growing fast, and it is expected that the ASEAN population will grow to 660 million in 2020 and to more than 720 million by 2030.³⁶

³⁶ Population growth and rural exodus in Southeast Asia, excerpt from: <http://aseanup.com/infographic-top-cities-urbanization-asean/>

Table 5 Number of inhabitants in most populated metropolis cities in Southeast Asia

CITY	COUNTRY	POPULATION IN MILLIONS OF INHABITANTS (2015)
MANILA	Philippines	12.9
JAKARTA	Indonesia	10.3
BANGKOK	Thailand	9.3
HO CHI MINH CITY	Vietnam	7.3
KUALA LUMPUR	Malaysia	6.8
SINGAPORE	Singapore	5.6
YANGON	Myanmar	4.8

Urbanization

Percentage of population residing in major urban areas

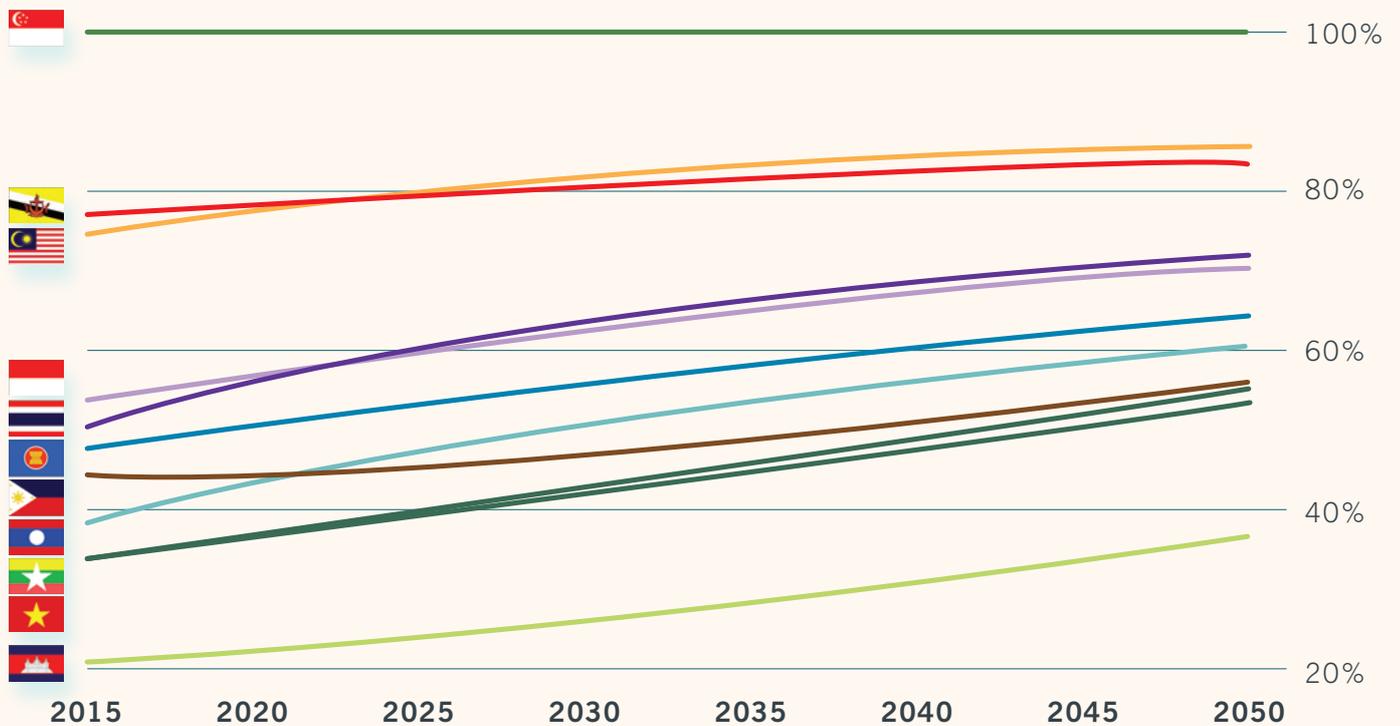


Figure 8 Urbanization percentage in Southeast Asia countries³⁷

This implies, however, that cities face obligations in meeting the basic needs of the population, as well as in delivering public services. This obligation becomes more challenging as the impacts of climate change are increasingly threatening cities. As their populations grow, cities need to expand their residential areas, including supporting facilities such as transportation facilities, roads, and other public services; providing reliable and accessible services such as electricity and water, also becomes a challenge. This means that if cities do not have strategies in place to cope with the above impacts, they will be more vulnerable.

³⁷ Infographic: top cities and urbanization in ASEAN, excerpt from: <http://aseanup.com/infographic-top-cities-urbanization-asean/>

OECD states that cities are home to more than half of the world's population and much of the world's industry. By 2050, OECD predicted that more than 70% of the population – 6.4 billion people – will be living in urban areas.³⁸ OECD also states that most of the absolute growth in population is projected to occur in emerging Asia, although developing non-Asian countries are estimated to make significant and increasing contributions over time.³⁹

Cities are crucial for climate change, both in terms of mitigation and adaptation, which must each be uniquely addressed. For instance, OECD states that cities are nowadays vulnerable to extreme weather events, storm surges and rising sea levels. Extreme weather events in cities can be especially disruptive to complex urban systems, particularly in Asia. OECD also indicated that the vulnerabilities of cities to storm surges and rising sea levels will increase rapidly over the coming decades as urban growth is concentrated in Asia.⁴⁰

Despite the risks of climate change, many cities have not yet addressed climate change or prepared themselves to cope with its impact. Cities do not have climate change strategies and action plans, urban planning is outdated and less responsive to climate proofing, and regulatory frameworks that support city development do not reflect the need to address climate change risks. To help cities cope with climate change, a low carbon and resilient livelihood development strategy needs to be developed and implemented. This strategy needs to address how a city can develop in a low carbon manner and at the same time ensure the livelihood of its residents and their resilience to the impacts of climate change. Developing in a low carbon manner can be done by applying energy efficiency in buildings and residential planning, an integrated transportation system, as well as low carbon power generation that is reliable with the electricity accessible at all times. A resilient livelihood development strategy framed to provide reliable essential services to meet the daily needs of the population, such as for energy (both electricity and for cooking) and water, needs to be developed.

³⁷ OECD. Cities and Climate Change: Policy Perspectives National governments enabling local action. September 2014.

³⁹ OECD. Cities and Climate Change: Policy Perspectives National governments enabling local action. September 2014.

⁴⁰ OECD. Cities and Climate Change: Policy Perspectives National governments enabling local action. September 2014.



***EAST NUSA
TENGGERA IS
THE THIRD
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PROVINCE IN
INDONESIA WITH
1,149 MILLION
POOR PEOPLE OR
22,19% OF
THE TOTAL
POPULATION.”***

Another strategy that needs to be developed is the mobilization of financing required to achieve the above conceptual targets, which may need a sustainable source of finance to fund the required public services, on top of meeting the basic needs of the people. Big cities in Indonesia like Jakarta, Semarang, and Surabaya, may find it easier to access funding for climate change, because these cities have better access to information on funding, and local governments have better capacities to co-finance projects. However, small cities located more distally from the center of the economy may not have access to information on possible funding.

This study focuses on the city of Kupang, the capital of East Nusa Tenggara province, in the eastern part of Indonesia. East Nusa Tenggara is the third poorest province in Indonesia⁴¹ with 1,149 million poor people or 22,19% of the total population. By focusing on one of the poorest provinces in Indonesia, this study is expected to identify the existing financing sources that can potentially finance local climate actions, identify the gaps, and offer recommendations on strategies to close the gaps.

2.1. CLIMATE CHANGE IN THE CITY OF KUPANG

Kupang, located at 123.51 east longitude and 10.6 south latitude, is on the island of Timor and has a semi-arid climate. The precipitation of the city of Kupang is around 1000-1500 mm/year, with around 100 rainy days per year, which is less than in the other areas of the islands of Java, Sumatera, Kalimantan, and Sulawesi. The total area of the city of Kupang is 16,534 hectares (180.27 km²). This area sustains a population of 556,773 people, with a population growth of 10.59% per year (Profil Kota Kupang, 2015) with most migrants to Kupang coming from villages.⁴²

⁴¹ <https://m.tempoco.com/read/news/2016/07/19/058788624/nusa-tenggara-timur-provinsi-ketiga-termiskin-indonesia>

⁴² Adiningtyas, W., Kuswardono, T., Heo, M., Messakh, O., Migran Miskin Tak Ber-aset di Kota Kupang. Perkumpulan Pikul. 2010.

Kupang's economic growth is among the highest of the Indonesian cities. Between 2010-2014 the economy of Kupang grew 6.5-8.3% per year. The total Gross Domestic Product (*Produk Domestik Bruto*, PDB) of Kupang reached IDR 12.167,335 billion. There are five major economic contributors to Kupang's GDP: construction, vehicle repair and retail trades, information and communication, education, and public services.

43 BPS, Kupang dalam Angka, 2014.

GDP Proportions of Kupang City

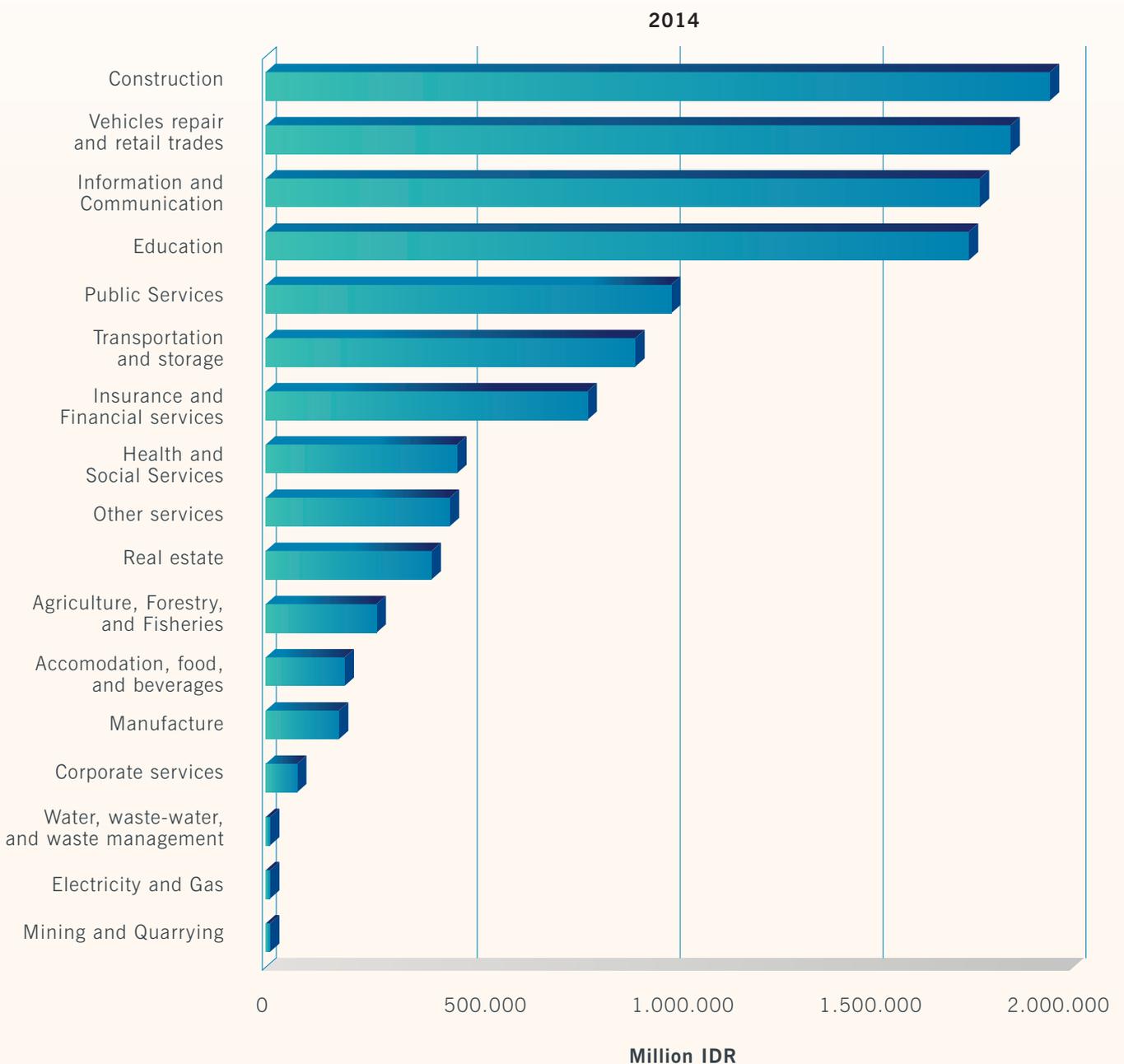


Figure 9 GDP proportions of Kupang City in 2014⁴³

Although Kupang is among the cities with the highest economy growth in Indonesia, this does not imply that Kupang has overcome its social and urban problems. According to the Municipality of Kupang Statistic Report (2014), there are around 33.8 thousand people (around less than 10% of total population) still living in poverty.⁴⁴ The poorest and most vulnerable people in Kupang are farmers, fishermen, informal workers including small vendors, women, people with disabilities, and children. These poor people are more vulnerable than other groups due to their poverty and lack of access to public services, and thus, they will have more difficulty coping with the impacts of climate change.⁴⁵

⁴⁴ BPS, Kupang dalam Angka, 2014.

⁴⁵ Kota Kita. RAD API-PRB: Rencana Aksi Daerah untuk Adaptasi Perubahan Iklim dan Pengurangan Risiko Bencana Kota Kupang. UNDP. August 2015.

⁴⁶ BPS, Kupang dalam Angka 2014.

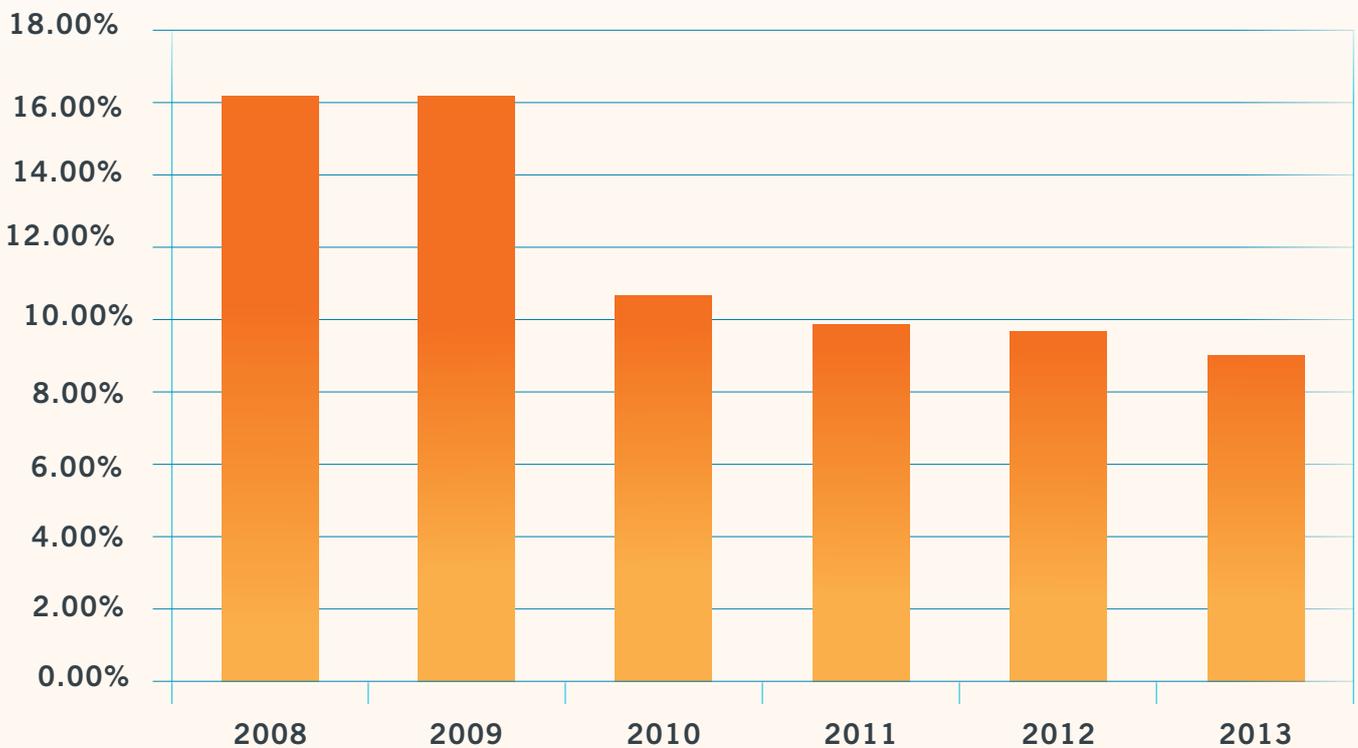


Figure 10 Percentage of poor people in Kupang⁴⁶

2.1.1. CLIMATE CHANGE ADAPTATION AND MITIGATION PRIORITIES OF KUPANG

In relation to extreme climate change events, Kupang often experiences extreme weather, such as rainfall beyond the normal frequency, or a shorter rainy season (Faqih, D. J, & Geru, 2015).. Extreme rainfall in several areas has caused floods, while short rainy seasons cause streams to dry up and well levels to drop (Kota Kita & UNDP-SCDRR, 2015). Overall, it is projected that Kupang will experience less extreme dry seasons, as other places in East Nusa Tenggara will also experience. The extreme wet seasons will increase, from once every 20 years, to once in 10 years (Boer, Faqih, Perdinan & Situmorang, 2015). The tropical cyclones that have threatened Kupang city will lessen in frequency, but increase in intensity.

A ccording to the Climate Change Vulnerability Study of Kupang city,⁴⁷ there are various hydrometeorological events that threaten Kupang, such as strong whirlwinds, storms, coastal abrasion, floods, and landslides. Aside from that, the study also states that Kupang is vulnerable to slow onset disasters such as droughts.

The projected vulnerability of Kupang to drought is high. The high vulnerability of Kupang is caused by low access to drinking water. Less than 38% of the Kupang population have access to piped water. Nevertheless, available water distribution is considered unreliable as people can only access water services once every two or three days. As a result, most households in Kupang have a water tank to collect water in when the water is flowing. Around 2% of the population has access to drinking water through bottled water companies, while around 24% of the population accesses water from private wells. There are also people who buy water from companies with water tanks, at a cost of around IDR 80.000 to IDR 250.000 per 5 liters. Taking into account the minimum water consumption

⁴⁷ UNDP. Rencana Aksi Daerah untuk Adaptasi Perubahan Iklim dan Pengurangan Risiko Bencana Kota Kupang. August 2015.

for cities with less than 1 million inhabitants is 150 Liter/day, then, buying water at the rate of IDR 80.000 – IDR 250.000/5 liter, is quite a burden. Kota Kita (2015) has estimated that poor people spend around 20%–50% of their income meeting their need for water. In response to the incremental population increases and greater levels of economy activity, the demand for water is also increasing. Kota Kita (2015) has recommended that Kupang improve its water resources management through: **(i)** controlling private sector ground water utilization; **(ii)** improving the quality of service of PDAM (locally-owned company for drinking water); **(iii)** conserving the city’s drainage basin; and **(iv)** developing the master plan on the city’s drainage.⁴⁸

⁴⁷ Kota Kita. Kajian Kerentanan Perubahan Iklim di Kota Kupang. Juni 2015. UNDP.

⁴⁹ Bureau of Statistics, Kupang. This is only a projection of water demand. However, this projection has not yet taken into account water consumption by industries.

Projected Water Availability in Kupang

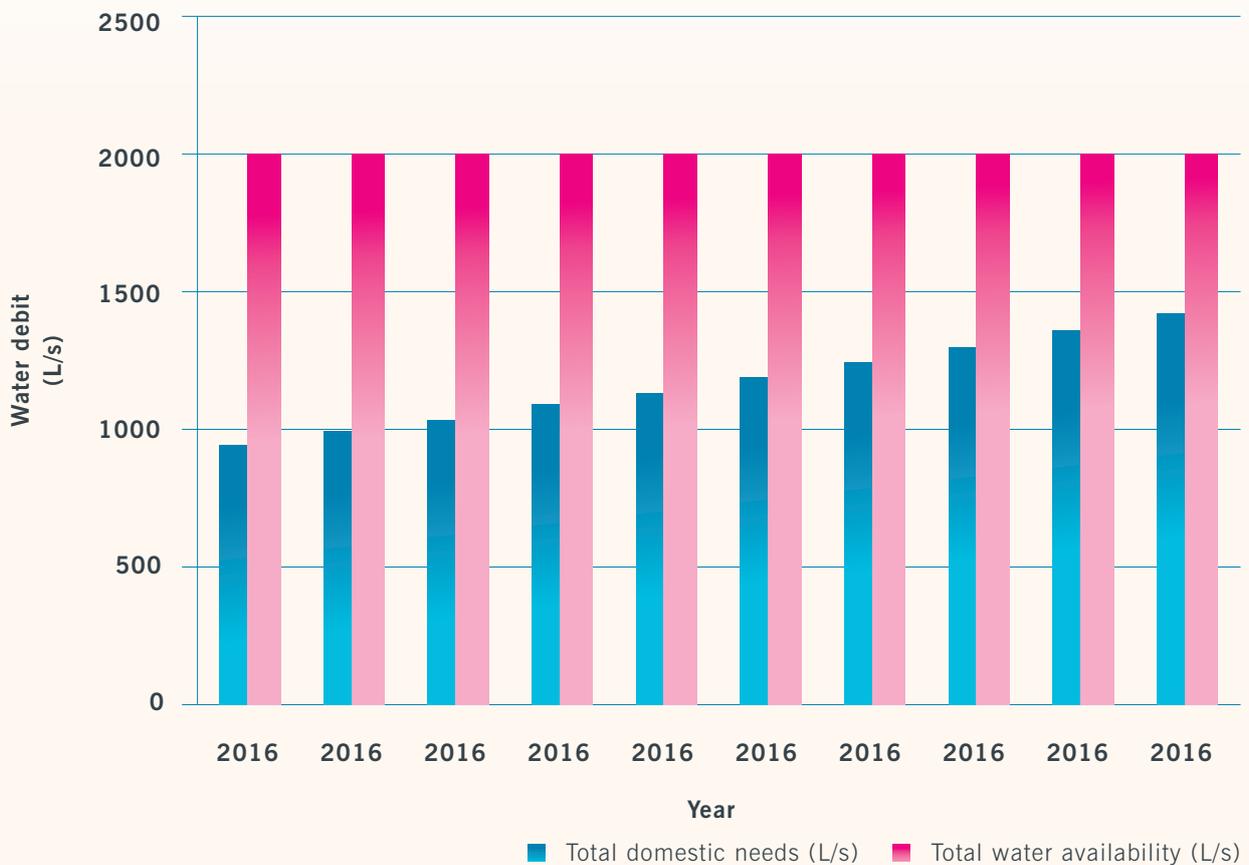


Figure 11 Projected water availability in Kupang⁴⁹

Kupang has two main sources of GHG emissions: energy (including transportation and electricity) and waste. Energy consumption in Kupang is increasing annually, alongside population and economy activities, which rely on energy. Most of the energy sources in Kupang come from fossil fuels such as diesel and coal in the generation of electricity, and gasoline for transportation. Kerosene is still the main fuel used for cooking other than wood. Kupang is highly dependent on fossil fuels.

The National Bureau of Statistics (Badan Pusat Statistik) states that the number of motor vehicles in Kupang doubled between 2009 to 2011 from 6000 to 12.000 vehicles, thereby increasing dependence on fossil fuels. This has also lead to more traffic congestion in the last five years,⁵⁰ and increased greenhouse gas emissions. The existing public transportation system has not yet accommodated all residential areas, especially the new areas. Therefore, people tend to buy private vehicles, which leads to further increases in greenhouse gas emissions.

In relation to electricity generation, Kupang is highly dependent on diesel and coal for power. The total installed electricity capacity of Kupang is 55 MW, however, in peak hours (usually at 6 PM - 10 PM), the electricity demand in Kupang can hit 60 MW. Another problem with the power plant in Kupang is the unreliable electricity quality and the frequent power outages (of around 6-8 hours per day in 2014-2015). At the end of 2015, a diesel-based floating power plant was installed to supply electricity for Kupang and although Kupang no longer experiences power shortages, there is high probability that Kupang's greenhouse gas emissions from fossil fuel based power generation will increase.

Domestic waste is also a source of greenhouse gas emissions in Kupang. Kupang still uses an open dumping method for waste treatment. Kupang's domestic waste reaches 382 m³/day, of which only 268 m³ can be transferred to landfill.⁵¹ In order to manage its waste, Kupang needs to reduce the amount of waste from ineffective sources, as well as improve existing waste management systems to reduce greenhouse gas emissions.

⁵⁰ This information was collected in the FGD that was conducted in Kupang on 12-13 November 2015.

⁵¹ Kupang's Municipal and Drinking Water and Environmental Health working group, 2014 (Pemerintah Kota Kupang and Kelompok Kerja Air Minum dan Penyehatan Lingkungan)

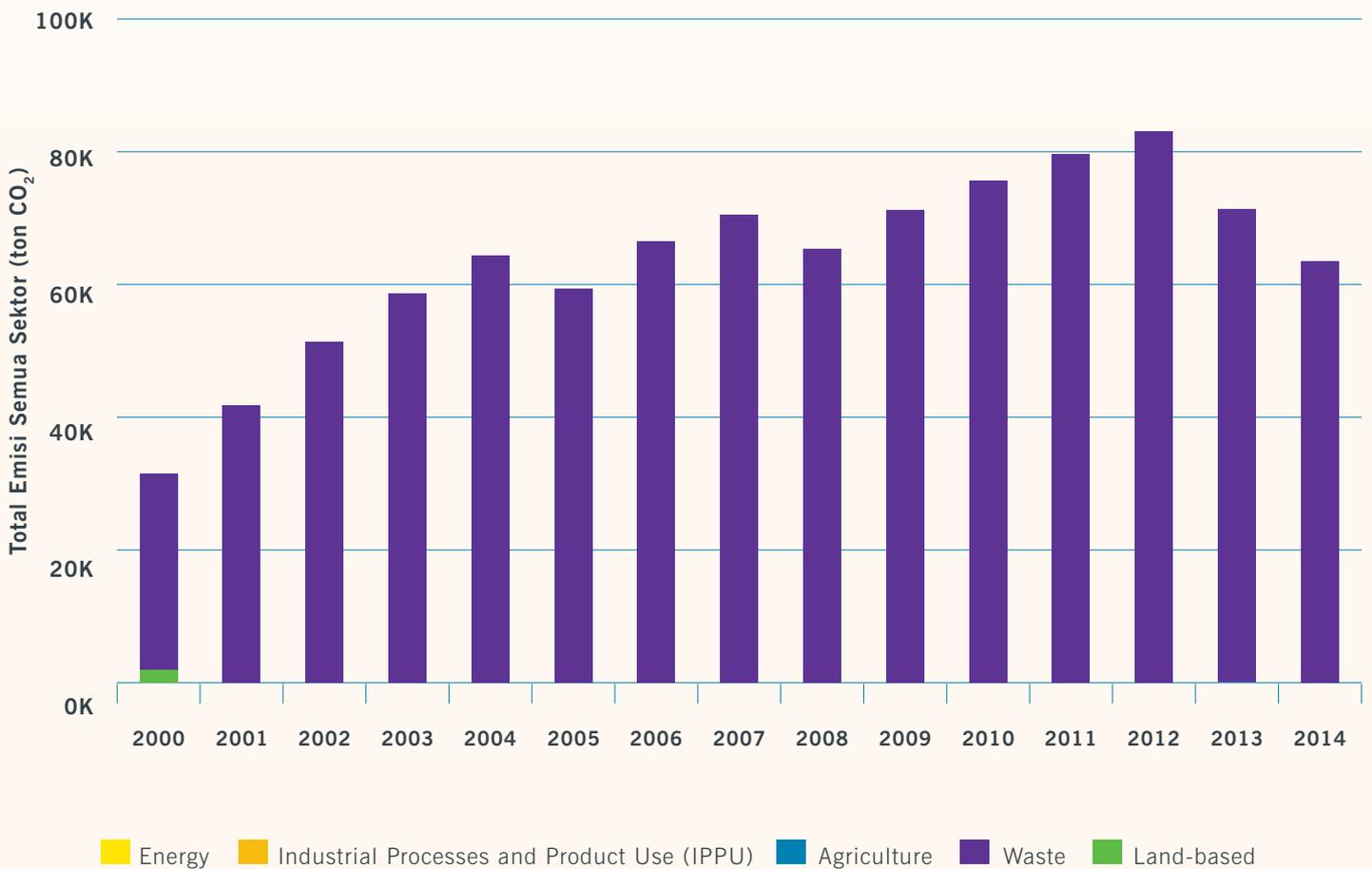


Figure 12 Kupang's greenhouse gas emissions from waste⁵²

The government of Indonesia has developed a national action plan to reduce greenhouse gas emissions (RAN-GRK) as well as a national action plan on climate change adaptation (RAN-API). RAN-GRK was formalized through Presidential Decree No. 61/2011, which elaborates the emissions reduction pledge announced by President Susilo Bambang Yudhoyono at the G20 meeting in Pittsburg in 2009. However, RAN API remains an open document, and it is being mainstreamed in Indonesia's national medium term development plan (RPJMN) 2015-2019. This was done with the expectation that ministries, agencies, and local governments formulate workplans based on the national medium term development plan, thus incorporating climate change adaptation into their workplans.

⁵² Data was taken from SIGN Smart, <http://signsmart.menlhk.go.id>



KUPANG IS AN EXAMPLE OF A CITY THAT HAS NEITHER A PLAN OF ACTION TO COPE WITH THE IMPACT OF CLIMATE CHANGE NOR STRATEGIES TO REDUCE GREENHOUSE GAS EMISSIONS.

RAN GRK has attached a list of activities that will be carried out at the national level through ministries and agencies. It also mandates all provincial governments in Indonesia to develop their own provincial action plans to reduce greenhouse gas emissions no more than one year after RAN GRK was adopted. All provincial governments were required to then develop their provincial action plans to reduce greenhouse gas emissions, which is called RAD-GRK, and it is formalized in the Governor's Decree of each of the provinces.

Unfortunately, in many provinces, RAD-GRK ends at the provincial level, and discontinues at the district/cities planning level. Thus, few Indonesian cities have an action plan to reduce greenhouse gas emissions. This disadvantages development activities related to climate change, both in terms of prevention actions and adaptation actions, as Indonesia's national transfer mechanism follows the program developed by the relevant district/city. Therefore, if the programs are developed and planned with no consideration of projected climate change phenomenon, then the transfer mechanism will fund activities that are not climate change related. Having said that, the district/city will face difficulties when the impacts of climate change degrade the quality of the existing infrastructure or lower the quality of existing natural resources. Kupang is an example of a city that has neither a plan of action to cope with the impact of climate change nor strategies to reduce greenhouse gas emissions.

For instance, in the provincial medium term development plan of East Nusa Tenggara province for 2013-2018, climate change is explicitly stated as the 8th strategic issue and translated as follows: "Improving the environmental quality and avoiding environmental degradation as well as climate change security based on the understanding that East Nusa



*KUPANG HAS NOT
YET INCORPORATED CLIMATE
CHANGE ANALYSIS
IN THEIR MEDIUM
TERM DEVELOPMENT PLAN FOR
2012-2017.*

⁵³ The original line is the following, "Peningkatan kualitas dan pencegahan degradasi lingkungan hidup serta ketahanan perubahan iklim dengan dasar pemikiran bahwa NTT adalah wilayah kepulauan yang bergantung pada sektor primer, rentan terhadap eksploitasi sumber daya alam, rentan terhadap ancaman kerusakan pesisir dan laut, serta sektor pertanian, perkebunan, peternakan, dan perikanan yang tidak didukung dengan cara-cara baru."

Tenggara is an archipelago area that relies on primary sector, vulnerable to natural resources exploitation, vulnerable to the threat of coastal and maritime damages, as well as the agriculture sector, plantation, farming, and fisheries that are not supported with new ways."⁵³ This means that although the activities of the province are the same, the way activities are designed should be based on the understanding that climate change will impact and threaten Nusa Tenggara Province.

Although the province of East Nusa Tenggara has already considered the issue of climate change in their development plan, the medium term development plan does not acknowledge the needs of the cities in relation to climate change. For instance, the medium term development plan clearly gives more attention to land use issues, rather than energy and waste; while in reality, both energy planning and waste management are crucial for Kupang.

Kupang has not yet incorporated climate change analysis in their medium term development plan for 2012-2017. The only aspect that can be considered to be related to climate change is in reference to how to establish a sustainable spatial plan and develop and maintain the city's infrastructure in a sustainable manner. However, although Kupang has not yet accommodated climate change explicitly in their medium-term development plan, there are programmes of activities that are related and that can be considered as climate actions for both mitigation and adaptation in the city of Kupang.

Table 6 Kupang's development activities that can be considered climate change mitigation action⁵⁴

GOVERNMENTS' DEVELOPMENT ACTIVITIES	GOVERNMENTS TARGET	NOTES
Air quality and vehicle pollution monitoring	This activity was expected to result in basic greenhouse gas emission data, as well as air quality data in Kupang.	This activity resulted from partnership between Environmental Agency of East Nusa Tenggara province, Regional Environmental Agency of Kupang city, Department of Transportation of Kupang. This activity was conducted from 2011-2016, though the monitoring part is incomplete.
Distribution of efficient biomass cook-stoves (around 1500 cook-stoves)	No greenhouse gas emissions reduction target was set for this activity.	This activity was done through partnership with Geng Motor Imut (a local NGO) which produces biomass stoves and has run consecutively for three years.
Replacing public street lighting with on-grid metered public street lighting	There is no greenhouse gas emissions reduction target for this activity. However, this activity has a target to change the lamps of around 4000 public street lights in Kupang.	
Waste management through waste bank and recycling	There is a pilot projects in two urban communities (kelurahan) of one district (kecamatan) to recycle plastics. There is no greenhouse gas emissions reduction target linked to this activity.	
Expanding open green spaces (Ruang Terbuka Hijau, RTH)	There is no greenhouse gas emissions reduction target as well as the increasing carbon stock target.	The challenge in conducting this activity lies in the limited amount of state-owned land that is under the authority of Kupang city.

⁵⁴ Compiled from Kupang's mid-term development plan (2012-2017) and through group discussion with local government on September 9th 2015.

In this study, two focus group discussions and a workshop were conducted in Kupang to determine what kind of climate change activities are possible in Kupang, related to both mitigation and adaptation. It was expected that this research would help to enable the local government and other relevant stakeholders in identifying the potential mitigation and adaptation actions needed in Kupang, for both the present and also the future.

Table 7 Kupang's data availability to develop climate change mitigation plan⁵⁵

ELEMENT	EXISTS	DOES NOT EXIST	NOTES
Sectoral greenhouse gases emission inventory	v		Only part of the information can be accessed through SIGN-SMART database, which is from the waste sector
Total greenhouse gases emission inventory		v	
Greenhouse gas emission in the business as usual scenario (baseline)		v	
Greenhouse gas emissions reduction target		v	
Sectoral greenhouse gas emission priorities in the city of Kupang		v	
Kupang's strategy to reduce greenhouse gas emissions		v	

This study also identifies climate change activities that can be conducted by stakeholders other than the local government; such as by civil society organizations. Although most CSOs have limited capacity, they can identify the needs of the city and implement measures to meet these needs. Most of the activities are related to energy and domestic waste management. While the activities of the CSOs were probably initiated without an understanding of climate change their activities are highly related and provide a positive contribution for the city in relation to climate change.

⁵⁵ Extracted from several FGDs and workshop in Kupang from 2015-2016.

⁵⁶ These activities were identified through focus group discussions with CSOs on September 9th 2015.

Table 8 Activities of Kupang's CSOs that are considered to be climate change mitigation actions⁵⁶

ACTORS	ACTIVITIES	TARGET	NOTES
Geng Motor Imut (NGO)	Biomass cook-stoves production	Produce 200 (max) cook-stoves per month	There was a partnership between the municipal government in the biomass cook-stoves distribution program where GMI acted as vendor/supplier of the cook-stoves
Geng Motor Imut (NGO)	Biogas digester	Depends on market demand. However, this technology has been installed at around 50 sites throughout East Nusa Tenggara	
	Portable solar water desalinator	Pilot project	
	Solar Home System	Just started	
Immanuel Waste Bank	Private waste bank	Has engaged more than 200 clients	Has challenges especially related to price fluctuations of plastic and iron waste

⁵⁷ Kupang's medium term development plan (RPJMD) 2012-2017 combined with the FGD results with local government in September 9th 2015.

Kupang also has several activities in its development plan which can be considered as climate change adaptations. The listed activities in the development plans show that in Kupang climate change adaptation activities might be more readily incorporated than climate change mitigation activities.

Table 9 Kupang's development activities that are considered as climate change adaptation activities⁵⁷

ACTIVITIES/PROGRAMS	CURRENT STATUS OF ACTIVITIES	CATEGORY OF ACTIVITIES
Waste management at the household level, recycling, composting	There are pilots at several houses and urban communities (kelurahan)	Vulnerability reduction
Urban farming program at household level	Pilot in 25 households	Capacity building
Flood control infrastructure, land-slides	Currently ongoing in several urban communities that are vulnerable to land-slides and floods	Vulnerability reduction
Mangrove rehabilitation and conservation	ongoing particularly in areas that have and previously had mangrove vegetation	Vulnerability reduction
Water catchment area conservation and rehabilitation	Ongoing	Vulnerability reduction
Ground water utilization control through monitoring and permit issuance	The authority to manage water will be shifted from the local to the provincial level. This leads to concerns about the effectiveness of monitoring and control	Vulnerability reduction
Clean water distribution in dry season	Ongoing	Drought emergency response
Fire prevention	Ongoing (routine basis)	Vulnerability reduction
Local economy empowerment	Applies for all district and urban communities. Around IDR 500 million per urban community was allocated to be accessed by the people	Capacity building
Coastal economy empowerment	Specifically in coastal urban communities	Capacity building
Disaster area mapping and fire contingency plan	Ongoing	Vulnerability reduction
Poor people empowerment programme		To increase the capacities of poor people

Table 10 Kupang's data availability to develop climate change adaptation plan

ELEMENTS	EXISTS	DOES NOT EXIST	NOTES
Vulnerability Assessment and climate change risk studies	v		Local action plan on climate change adaptation and disaster risk reduction (RAD-API PRB) exists, however, the document cannot be formal reference for city development planning as climate change is not thoroughly discussed. For instance, scenario options if the average temperature increases to 1°C, 1.5°C, and 2°C in the next 50 years, are not included.
Climate change adaptation priority	v		Already included in the local action plan on climate change adaptation and disaster risk reduction (RAD-API PRB)
Climate change adaptation strategy	v		Already included in the local action plan on climate change adaptation and disaster risk reduction (RAD-API PRB)
Climate change adaptation activities	v		Already included in the local action plan on climate change adaptation and disaster risk reduction (RAD-API PRB), but limited to activities that have been approved in the local medium-term development plan (RPJMD) and the strategic plans of the local working agency (Satuan Kerja Perangkat Daerah, SKPD)

⁵⁸ Source of information was the focus group discussion on September 13th 2015.

Aside from the development activities of local government, there are also activities conducted by civil society organizations that can be considered as climate change adaptations.

Table 11 Activities of Kupang's CSOs regarding climate change adaptation⁵⁸

ACTOR	ACTIVITIES	CURRENT STATUS	NOTES
Pikul, CIS Timor	Rain-water harvesting	Pilot scale	Collecting rain-water to meet the water needs of families, households, and for agriculture in the rural areas
Immanuel Waste Bank	Small industry plastic waste recycling	Still at the business development stage	The challenge to be overcome by the waste bank is the long waste management chain (Kupang-Surabaya)
Pikul	Dissemination of information on weather and seasons for coastal people	Pilot project	In 2014, Pikul did a pilot project on this through SMS getaway. The information was disseminated and reached around 50% of the total fisherman households in Kupang city.

CLIMATE FINANCE LANDSCAPE IN INDONESIA

The 2014 Climate Policy Initiative (CPI) publication indicated that in Indonesia around USD 678 million of climate finance comes from public sources. CPI indicated that around 97% of the finance was disbursed through ministries and agencies, while only a very small proportion was issued to local governments in the form of grants. The same report also mentioned that in terms of information practices in Indonesia there are blockages in the flow of domestic climate finance to local governments. In order to overcome the blockages, CPI (2014) recommends that urgent work be done to understand how to support the timely, efficient and effective scale up of climate finance at the provincial and district levels.

CPI provided two high-level recommendations related to ensuring climate finance at the provincial and district levels:

(i) Opportunities to increase the flow of climate finance into projects, which can be done through designing a dedicated instrument to link national government climate plans and sub-national expenditures and to establish Indonesia's public financial management framework;

(ii) Opportunities to improve climate finance tracking, which can be done through developing detailed guidance on how to determine which activities are climate specific, particularly in relation to adaptation; building a single national system or database for systematically collating comparable information from the full spectrum of actors; and to develop clearer, more detailed, and more readily accessible guidelines to explain existing and emerging reporting requirements.

3.1. VARIOUS CLIMATE FINANCE IDENTIFIED

There are various climate funds that exist and that can be accessed by developing countries to finance climate actions. These funds are available at the international, national, and local levels. However, to access the available funds, knowing the information on what funds are available is not enough. Meeting the requirements by the project proponent, in this case cities, for eligibility to access the funds, is another challenge to be overcome. This part of the paper will elaborate some of the funding available at the international, national, and local levels, including the requirements that need to be met to be eligible to access the funds.

3.1.1. INTERNATIONAL CLIMATE FUNDS

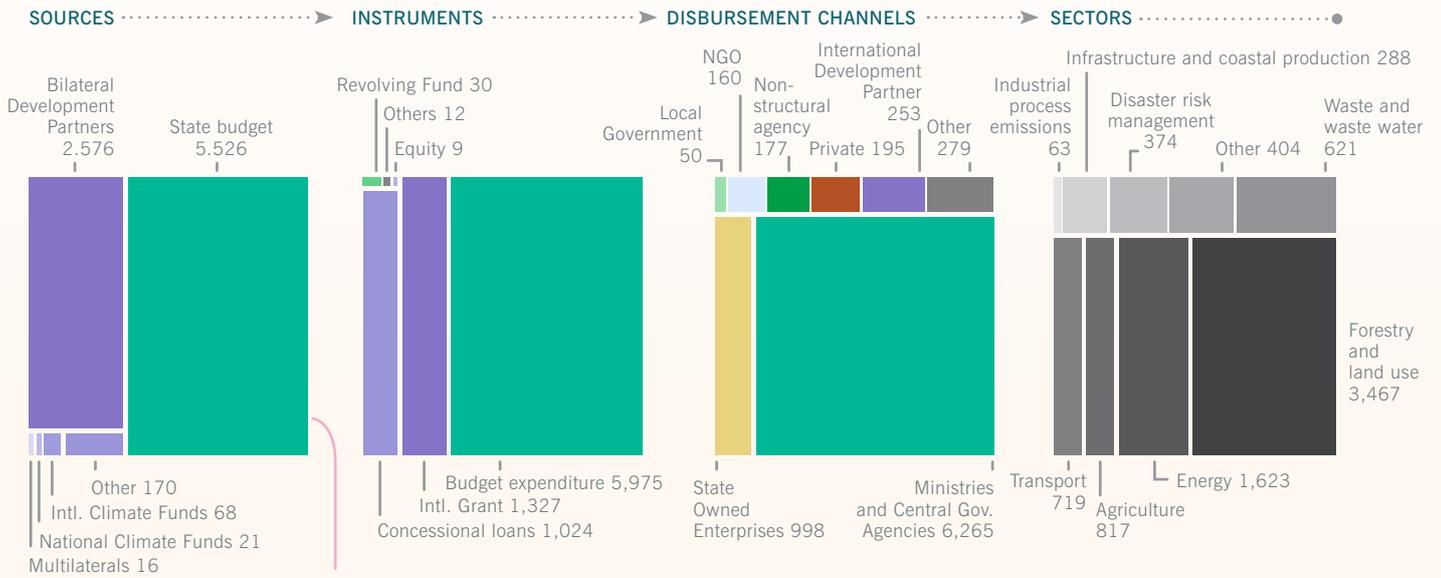
There are a number of multilateral funds in recent decades with the specific objective of assisting developing countries in meeting the financial needs of pursuing low-carbon and climate resilient development pathways. The funds are recorded to have approved over USD 9 billion since 1994 for projects specifically targeting climate mitigation and adaptation in developing countries (Nakhooda, Norman et al., 2014).⁶⁰ Current climate funds that are increasingly targeting cities are Global Environment Facility (GEF) and Green Climate Fund (GCF).

⁵⁹ Climate Policy Initiative and Fiscal Policy Agency. The landscape of public climate finance in Indonesia. July 2014.

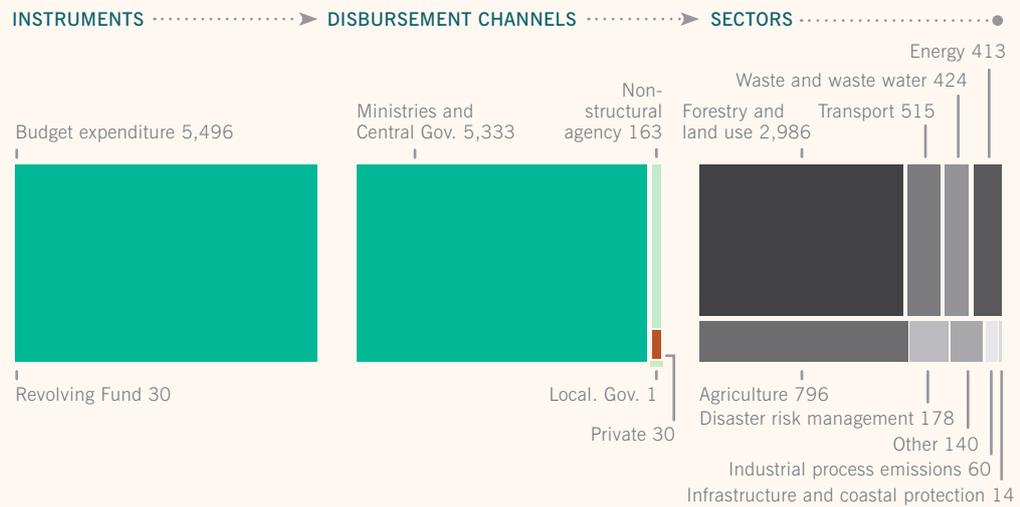
⁶⁰ Barnard, Sam. Climate finance for cities. ODI Working Paper 419. June 2015.

PUBLIC CLIMATE FINANCE FLOWS IN INDONESIA IN 2011

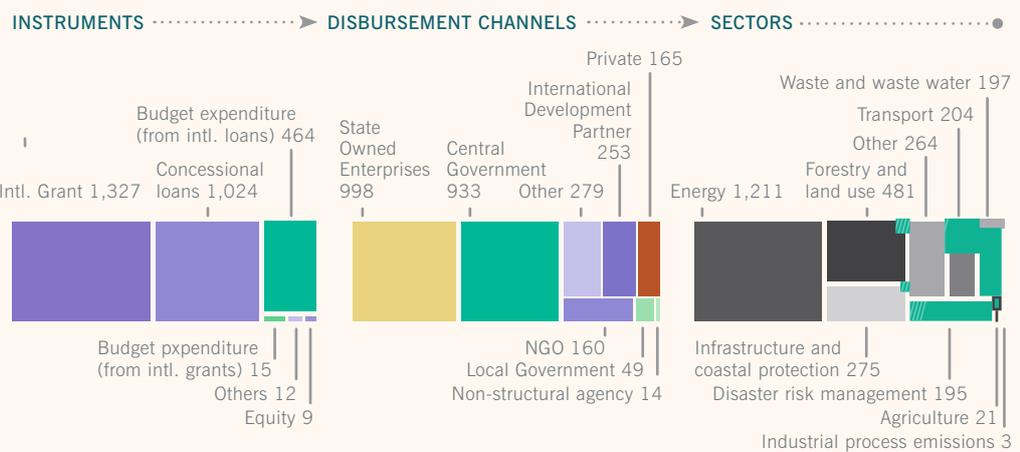
ALL FIGURES IN BILLIONS OF
INDONESIAN RUPIAH (IDR)



Domestic Public Climate Finance



International Public Climate Finance



The green hashes above represent the volume of finance in each sector that is **sourced** from international development partners but ultimately **spent** via the Indonesian Government.

Source: Study team analysis of budget data and international development partner survey

Note: Flows are expressed in IDR billions and are rounded to produce whole numbers, and as such may not add up. We exclude movements of finance between actors which did not result in disbursements to projects.

Figure 13 Public climate finance flows in Indonesia in 2011⁵⁹

3.1.1.1. GLOBAL ENVIRONMENT FACILITY (GEF)

Global Environment Facility (GEF) was established in October 1991 as a pilot program of the World Bank with a value of USD 1 billion. It was established to provide assistance to developing countries to meet the goals of addressing global environmental issues while supporting national sustainable development initiatives. In order to do so, GEF provides a mechanism for international cooperation for the purpose of providing new, and additional, grant and concessional funding to meet the agreed incremental costs of measuring how to achieve agreed global environmental benefits. In 1994, GEF evolved in its structure and was separated from the World Bank to establish as a permanent institution. As a result, it became an operating entity for both UNCBD and UNFCCC.

GEF can finance through several schemes: (i) full-sized project, where the investment value is more than USD 2 million, which is usually accessed by governments, however, CSOs can also apply for the funding with the approval of the national focal point; (ii) medium-sized project, where the GEF grant is equal to or less than USD 2 million, which can be accessed by governments and CSOs; (iii) for enabling activities, where the GEF grant is capped by the respective focal area threshold; (iv) programmatic approach; and (v) through the Small Grants Program at the maximum investment of USD 50,000. In Indonesia, the national focal point for the Small Grants Program is held by the non-government organization YBUL (Yayasan Bina Usaha Lingkungan).

GEF also has a resource allocation system for biodiversity, climate change and land degradation focal areas called STAR (System for Transparent Allocation of Resources). Countries with STAR allocations of less than USD 7 million, will have full flexibility to program the allocation across the three



IN GEF 6, THERE ARE 49 COUNTRIES THAT WILL BENEFIT FROM THIS FLEXIBILITY. STAR ALLOCATION IS FIXED, THUS ENSURING COUNTRIES RECEIVE THEIR ALLOCATION AND DO NOT NEED TO COMPETE WITH OTHER COUNTRIES.

focal areas. In GEF 6, there are 49 countries that will benefit from this flexibility. STAR allocation is fixed, thus ensuring countries receive their allocation and do not need to compete with other countries.⁶¹ In its 6th replenishment, Indonesia was placed as the third biggest GEF STAR allocation recipient. Of a total of USD 83.92 million, USD 21.91 million is for climate change, USD 57.84 million is for biodiversity, and USD 4.16 million is for land degradation.

GEF has several project requirements that need to be met by the project proponents. All proposals to be funded by GEF must be: country-driven; within GEF focal area strategies, and the project can also point to global benefits; built upon participation processes; and must be consistent with global conventions. GEF 6 has added another requirement that an integrated approach is expected to be included in each proposal. It also needs to span multi-focal areas, and be synergized, complex, and plan for cross-sectoral activities.

There are several cities in Indonesia that have already accessed GEF, the first was Surabaya and the second was Jakarta. Surabaya accessed GEF funding with the concept of building a bike-lane that is combined with bus-lane, and Jakarta also applied for a similar project. However, up until the time of writing this report no Indonesian city has applied for GEF 6.

GEF has launched an Integrated Program on Sustainable Cities, where USD 100 million was committed to this initiative, including global coordination support, resources from countries interested in utilizing GEF allocations for this effort, and an incentive mechanism to match country allocations. The program is expected to provide a safe and supported space for cities to experiment, reflect, share, and establish a sensible and rigorous framework of analysis.⁶²

⁶¹ System for Transparent Allocation of Resources (STAR), excerpt from: https://www.thegef.org/gef/policies_guidelines/STAR

⁶² The GEF commits USD 100 million for an innovative integrated program on sustainable cities, except from: <https://www.thegef.org/gef/node/10826>

3.1.1.2 GREEN CLIMATE FUND (GCF)

Green Climate Fund (GCF) was established through COP 17 Decision in Durban. The Fund is designed to finance climate change projects/programmes with high risks, which no other funds nor investors would finance due to the risks. GCF is in favor of a direct access mechanism, introduced by the Adaptation Fund, in order to accelerate developing countries to directly access the Fund. However, the Fund also provides access to international organizations that have been working throughout the world to access the Fund. GCF also tries to encourage country ownership, therefore National Designated Authority (NDA) or focal point is required to be established in eligible countries (developing countries). This role of NDA is very important, since they are the Party that will endorse a proposal to the GCF Secretariat, and it is their role to review the proposal before it is submitted to align with the national strategy and the country's framework on climate change. For a national or local entity to be accredited, they must receive a No Objection Letter (NOL), issued by the NDA, to then be forwarded to the GCF Secretariat and the Board for approval.

GCF operates through two big windows: activities that are reducing emissions (climate change mitigation) and activities that are increasing resilience (climate change adaptation). Green Climate Fund has five investment frameworks which accommodate eight results areas, as shown in Figure 14 below. Investment framework and the results areas are the guidance by which GCF approves any proposals submitted.



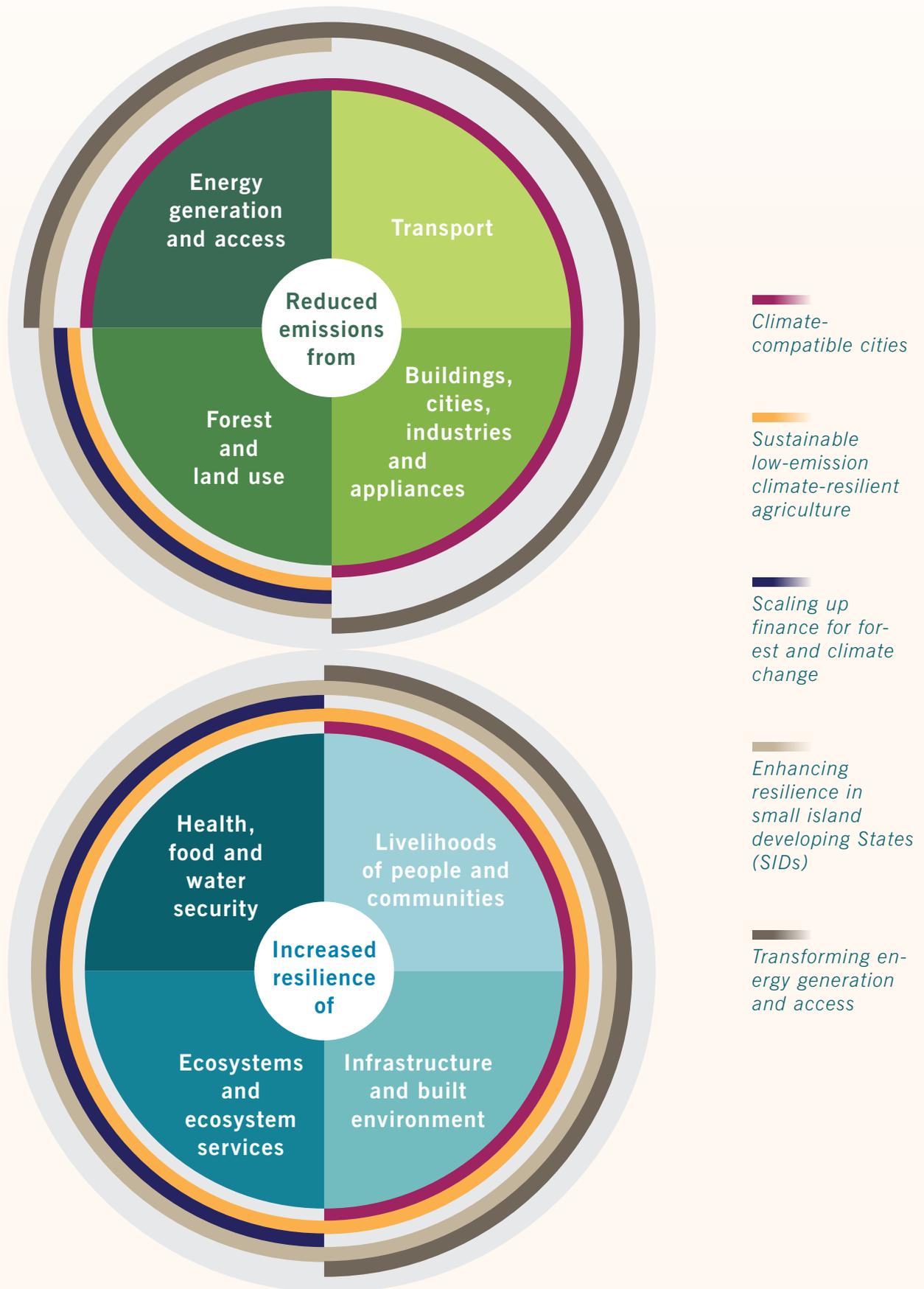


Figure 14 GCF's results areas and investment framework⁶³

⁶³ Green Climate Fund



IN THE CONTEXT OF INDONESIA, IESR (2015) HAS INDICATED THAT THERE ARE DIFFICULTIES FOR INDONESIAN ENTITIES IN GAINING ACCREDITATION, THUS THE ACCREDITATION PROCESS TAKES LONGER.

Under the investment framework of climate compatible cities, there are several results areas that can be funded by the GCF. On activities to reduce emissions, creation of climate compatible cities can be achieved in three ways: (i) energy generation and access; (ii) transport; and (iii) buildings, cities, industries and appliances. Activities that increase resilience, in the planning of climate compatible cities, can be achieved through activities that are related to livelihoods of people and communities, as well as infrastructure and the built environment. Having said that, it is possible for municipalities in developing countries to access the Green Climate Fund, as long as they can meet the requirement to be an accredited entity to the GCF.

To access GCF, an entity firstly has to be accredited. There are two types of accreditation: direct access or international access. Direct access entities are entities that are working and based at the sub-national, national and regional levels (GCF Governing Instrument para 47); while the international access relates to international entities, including United Nations agencies, multilateral development banks, international financial institutions and regional institutions (GCF Governing Instrument para 48).

To be accredited, candidates have to be assessed on whether they have the ability to manage GCF's resources in accordance with the Fund's fiduciary standards for the scale and type of funding sought, as well as the ability to manage environmental and social risks that may arise at the project level. Entities seeking accreditation to access GCF resources will also be assessed against the Fund's gender policy.⁶⁴

In the context of Indonesia, IESR (2015) has indicated that there are difficulties for Indonesian entities in gaining accreditation, thus the accreditation process takes longer. IESR (2015) has drawn lessons learned from the accreditation process that was undergone by two accredited candidates from Indonesia:

⁶⁴ Excerpt from GCF website: <http://www.greenclimate.fund/partners/accredited-entities/accreditation>



“

STANDARD ENVIRONMENTAL AND SOCIAL SAFEGUARD (ESS) OF GCF IS BASED ON THE PRINCIPLE OF FIT FOR PURPOSE. HOWEVER, UNTIL THE REPORT WAS PUBLISHED, APPARENTLY THE GCF SECRETARIAT DOES NOT YET HAVE A STANDARD ON HOW TO ASSESS AN ESS

(i) The importance of having documents in at least one of the UN’s six official languages is high. For Indonesian entities, most operational procedures are in Bahasa Indonesia, thus translation costs can be high;

(ii) Standard Environmental and Social Safeguard (ESS) of GCF is based on the principle of fit for purpose. However, until the report was published, apparently the GCF Secretariat does not yet have a standard on how to assess an ESS;

(iii) GCF Secretariat in assessing an entity candidate, pays high attention to the SOP that is implemented in the daily operations of accredited entity candidates, especially those related to avoiding fraud, corruption, and money laundering;

(iv) There are standards and default practices for private sector institutions, such as in banking, that are not easily met by non-profit entities or non-government organizations. For instance, the requirement to have a ‘Know Your Customer (KYC)’ procedure. The accredited entity candidates need to have a mechanism by which they know their clients and/or customers, in order to avoid issues of fraud and corruption. Many non-profit entities or non-governmental-organizations do not have this kind of mechanism. However, this needs to be created, in order for them to be accredited.

Since GCF is a new fund, although it is clear that GCF can be used to fund climate actions at the city level, there are no case studies on this to date.



3.1.2. NATIONAL CLIMATE FUNDS

3.1.2.1. NATIONAL BUDGET

At the national level, Indonesia has several funds that can be accessed to implement climate change actions. Although they are not called ‘climate change funds’, they can be used for relevant climate change activities.

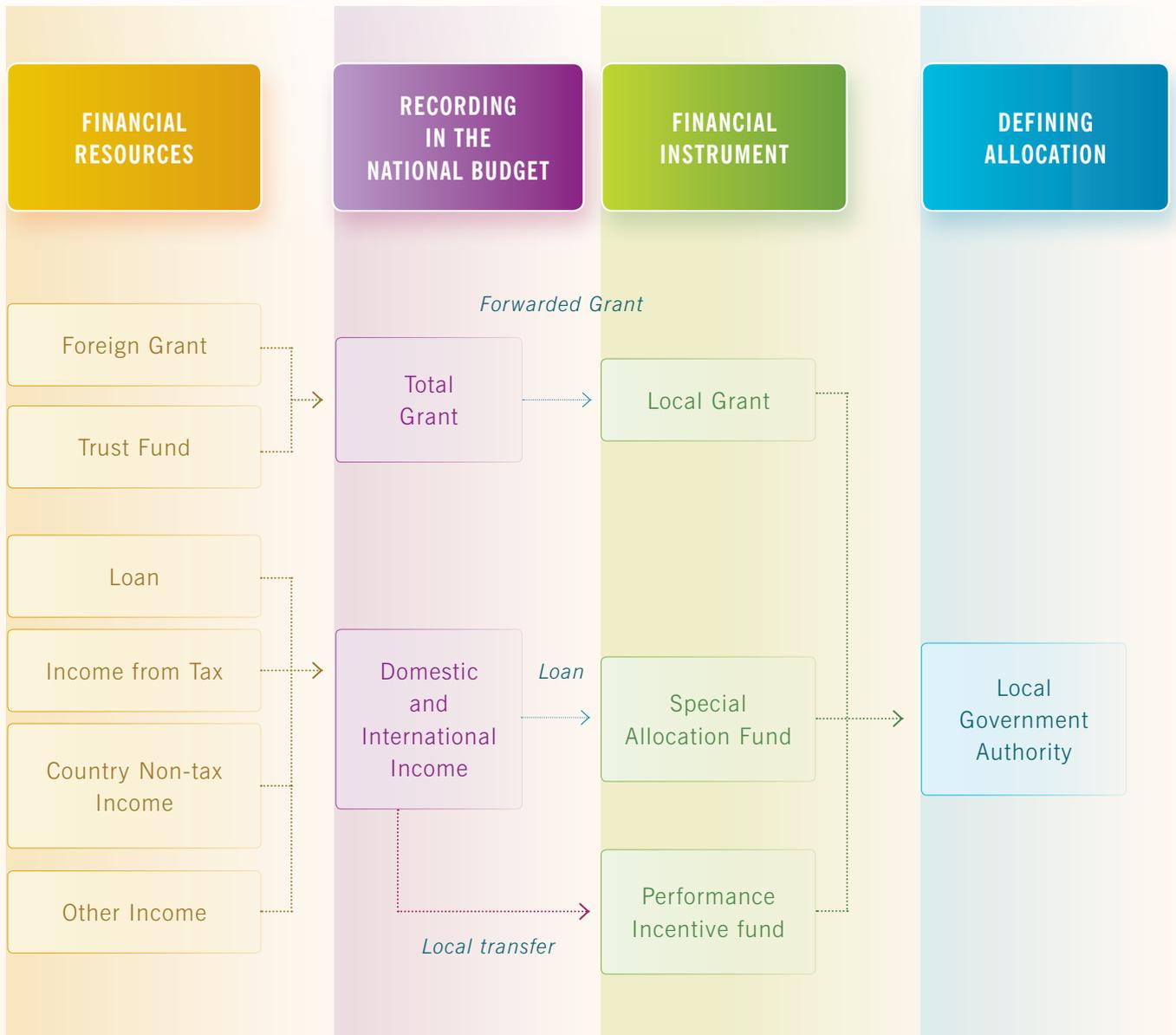


Figure 15 Financial flow diagram on climate change funds in Indonesia⁶⁵

⁶⁵ Pusat Kebijakan Pembiayaan Perubahan Iklim dan Multilateral, Badan Kebijakan Fiskal, Kementerian Keuangan. Instrumen Pendanaan di Indonesia untuk Perubahan Iklim. Jakarta, 18 Agustus 2015.



THE PERFORMANCE INCENTIVE FUND IS DISBURSED TO THE LOCAL GOVERNMENT WHEN THE LOCAL GOVERNMENT HAS ACHIEVED A CERTAIN GOAL OR TARGET THAT HAS BEEN SET AS A CRITERIA FOR LOCAL GOVERNMENT TO ACCESS THE FUND.

⁶⁶ Center of Climate Change and Multilateral Financing Policies. Instrumen Pendanaan di Indonesia untuk Perubahan Iklim. Ministry of Finance. Delivered at IESR's kickoff workshop on Financing for Cities, 18 August 2015.

⁶⁷ Village fund is established through Law No. 6/2014 on Village which then derived to Presidential Regulation No. 66/2014 which then improved through Presidential Regulation No. 22/2015

Figure 15 shows there are three sources of funds from the national government to the local government: the Local Grant (Hibah Daerah), the Specific Purpose Fund (Dana Alokasi Khusus), and the Performance Incentive Fund (Dana Insentif Kinerja). A Local Grant is a grant that is transferred from the central government to the local government; or a local grant can be a foreign grant channeled through a trust fund. Specific Purpose Funds can also be accessed by local governments in order to get additional funding for specific activities. For cities, the relevant specific purpose fund that can be accessed is the Specific Purpose Fund for forestry and environment. However, the local government needs to submit a request to the respective ministries for the fund.

The Performance Incentive Fund is disbursed to the local government when the local government has achieved a certain goal or target that has been set as a criteria for local government to access the fund. The Ministry of Finance is currently exploring the possibility of using the Performance Incentive Fund to incentivize emissions reductions at the local government level. The Ministry of Finance (MoF) put reduction of greenhouse gas emissions as an indicator for local government to be eligible to receive the fund.

There are several other activities⁶⁶ that will be conducted by the Ministry of Finance to mobilize funding for climate change through the issuance of green bonds and the utilization of village funds.⁶⁷ In the context of the village fund, even though the fund exists and will be allocated, villages still need to have a development plan to access the fund, thereby increasing the capacity of villages in designing climate compatible development plans relevant to their local area.

Among the other forms of national transfers to the local government, the DID (Performance Incentive Fund) is the simplest transfer instrument provided by the government to be adopted as a financial instrument for climate action at the city or provincial levels. However, DID is not ideal for short-term activities; it is more suitable for

medium-term activities.⁶⁸ Instruments such as DAK can be adopted to fund climate mitigation actions, and it is not necessary to create another DAK on climate change mitigation. Financing climate change mitigation actions can simply use current DAK, since there are activities that can be considered as climate change mitigation actions that can be financed through DAK. Improvement on the indicators may help in order to justify that climate change mitigation actions funded through DAK can be claimed as such. Nevertheless, it is important to note that among the many DAKs that exist, only the DAK on the environment can be accessed by cities in regard to waste management.⁶⁹ Other potential DAK, such as small scale energy and forestry, can only be accessed by the provinces. This shows that the level of authority in Indonesia will also determine how much money can be spent or accessed by the municipal government in regard to climate change activities.

3.1.2.2. INDONESIA CLIMATE CHANGE TRUST FUND

The Indonesia Climate Change Trust Fund (ICCTF) was established through the Minister of National Development Planning Decree No. 44/M. PPN/HK/09/2009 and was amended by the Minister of National Development Planning Decree No. 59/M. PPN/HK/09/2010. ICCTF has operated since 2010 and has mandated to mobilize finance and to allocate it to activities that support the achievement of Indonesia's emission reductions targets (RAN GRK) as well as the implementation of the national action plan on climate change adaptation (RAN API).⁷⁰ ICCTF may also help local governments to plan and implement their local climate action strategies, on a project by project basis, through civil society organizations, the private sector, or academia.

As the ICCTF is a working unit (satuan kerja, or satker) under the Ministry of National Development Planning (Bappenas), in accordance with the Minister of Finance Decree No. 188/2012, ICCTF does not

⁶⁸ Fiscal Policy Agency, Ministry of Finance. Design Instrumen Transfer Fiskal untuk Pendanaan Rencana Aksi Daerah Penurunan Emisi Gas Rumah Kaca (RAD-GRK). 2012

⁶⁹ Minister of Environment and Forestry Decree No. P.69/Menlhk-Setjen/2015 Article 3.2.

⁷⁰ <http://icctf.or.id/bgground-ext-p-3641-en/>

allow any funding to be granted to ministries or government agencies, nor to local governments. Therefore, ICCTF can only be accessed by civil society organizations, academia, and the private sector. However, as the mandate of ICCTF is to support the achievement of national and local action plans to reduce greenhouse gas emissions and to implement adaptation plans, any proposals submitted to ICCTF should include an endorsement letter from the relevant local government where the project will be implemented, indicating that the project does contribute to the achievement of the local development plans/targets.

⁷¹ Derry Wanta. Informasi Pendanaan Kegiatan ICCTF 2015-2016. Delivered at FGD 'Peluang Kota untuk Mengakses Pendanaan Perubahan Iklim di Indonesia' July 18th 2016.

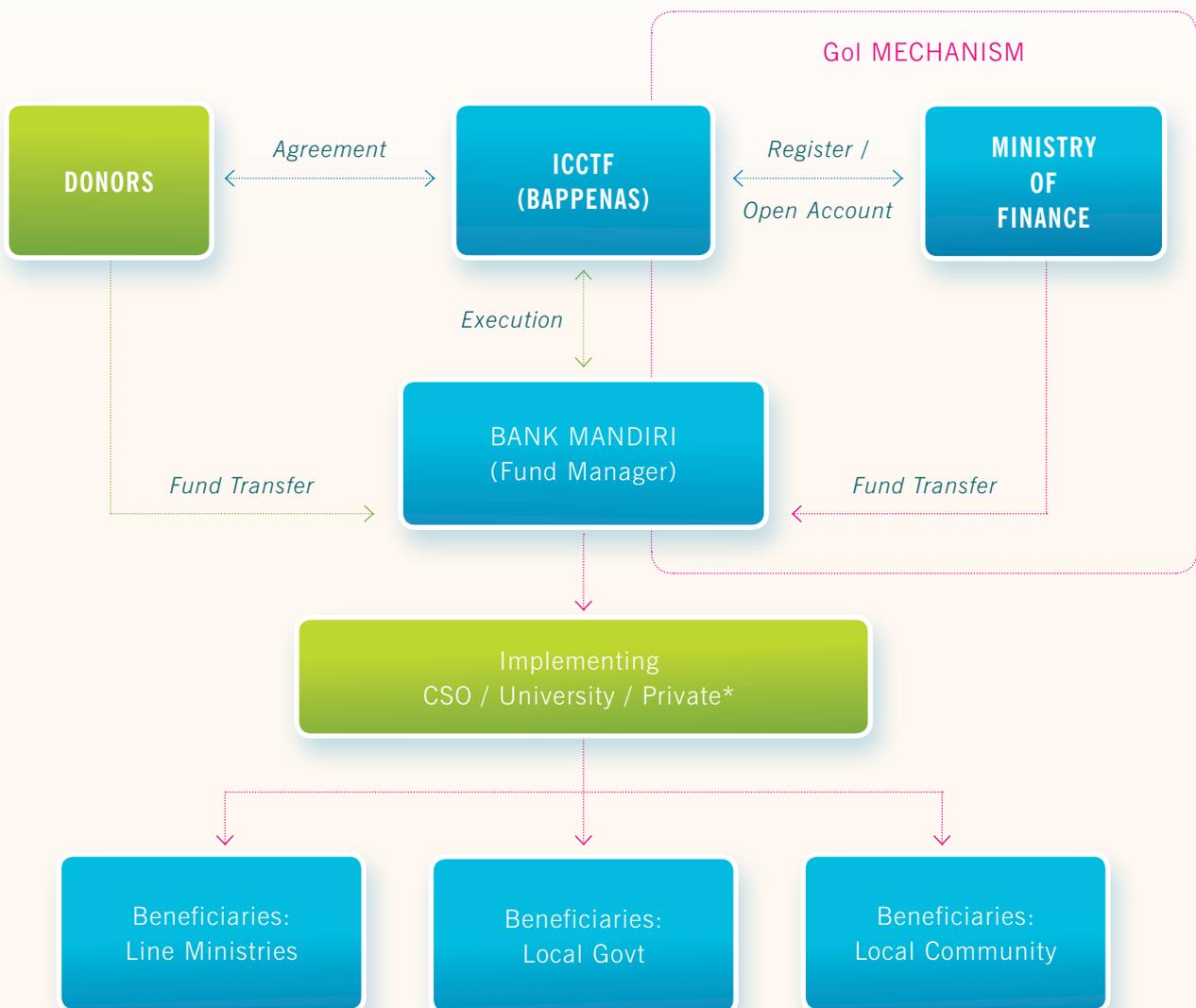


Figure 16 ICCTF funding disbursement mechanism⁷¹

The proposal selection is conducted in accordance with the procedure set by the government of Indonesia, which will be treated as a national budget funded project. In its operational, ICCTF receives funding allocated under the national budget and from donors in the form of grants.

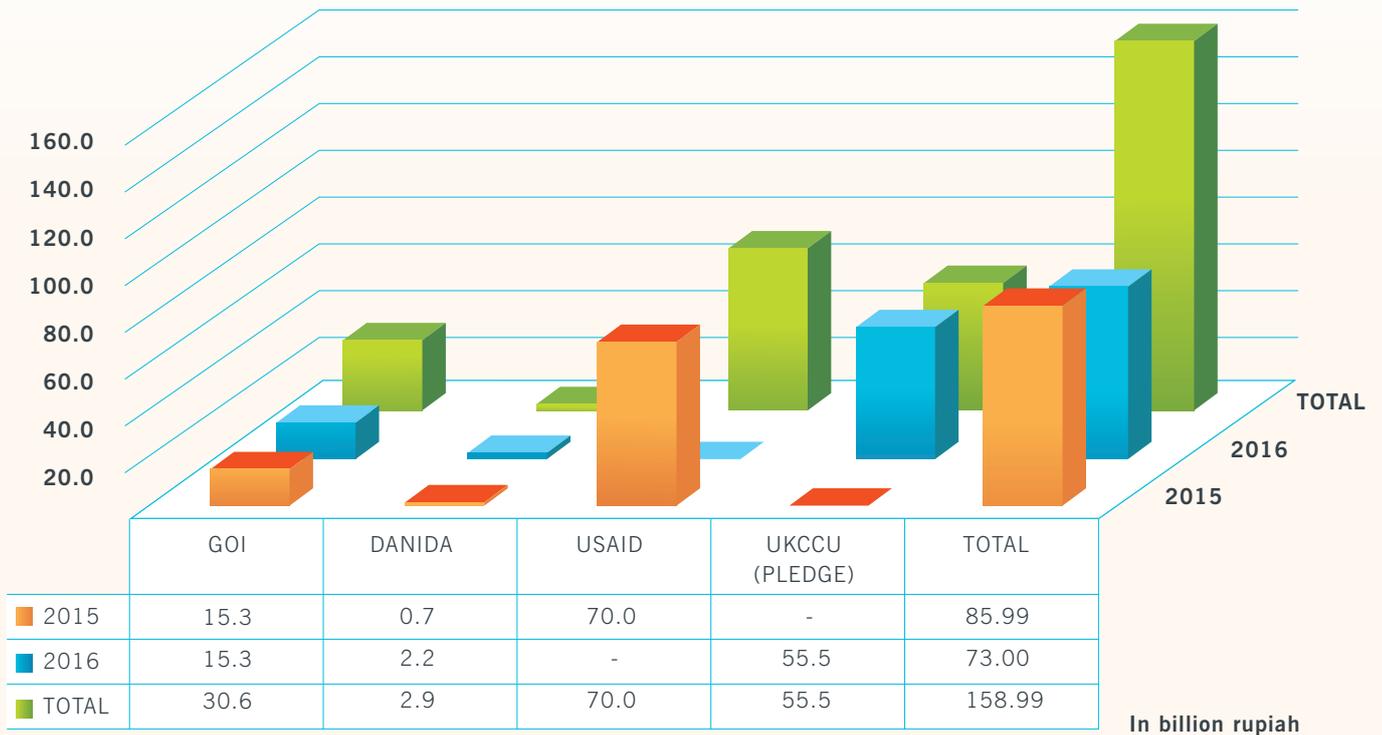


Figure 17 ICCTF total funding received 2015-2016 per June 30th 2016⁷²

ICCTF has three funding windows: land-based mitigation, mitigation, and adaptation. The land-based mitigation has the focus areas: forestation and forest rehabilitation, critical land restoration to be community forest, and forest management towards sustainable areas. On mitigation, the focus area is energy. All proposals around energy supply and demand, energy efficiency and conservation, energy development, and low carbon energy generation, are included under this focus area. The third window, adaptation, consists of the following focus areas: increasing community resilience through development of adaptation strategies as well as the development of technologies for relevant adaptation measures.

⁷² Derry Wanta. Informasi Pendanaan Kegiatan ICCTF 2015-2016. Delivered at FGD 'Peluang Kota untuk Mengakses Pendanaan Perubahan Iklim di Indonesia' July 18th 2016.

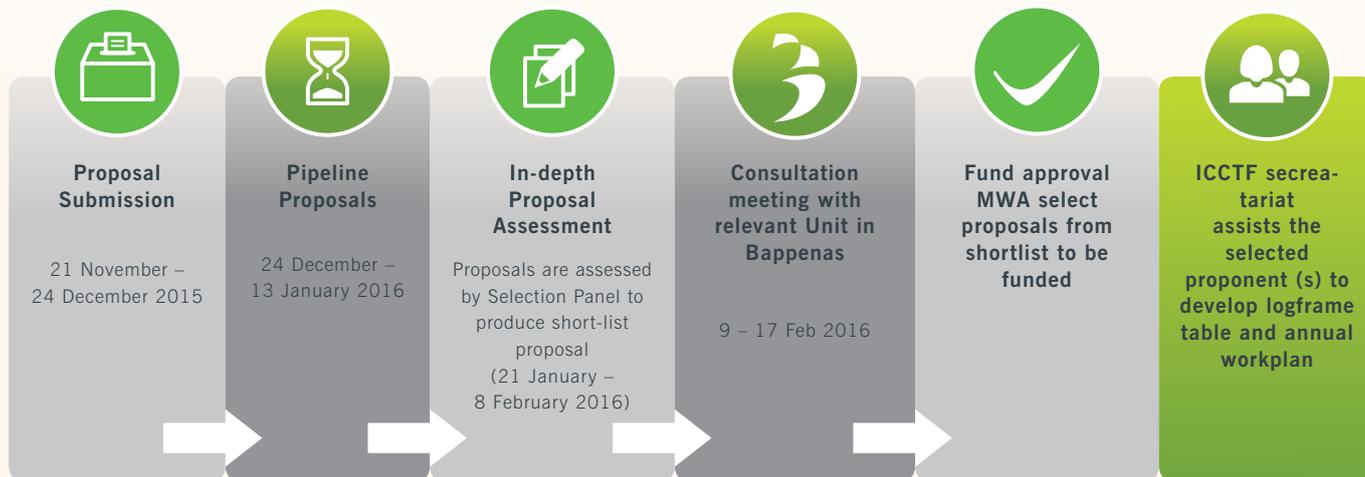


Figure 18 Proposal selection process⁷³



Figure 19 ICCTF funded programs (2016-2018) per June 2016⁷⁴

FOCUS AREA – LAND BASED MITIGATION	FOCUS AREA – ENERGY	FOCUS AREA – ADAPTATION AND RESILIENCE
<ul style="list-style-type: none"> 1 STIK Yayasan Teungku Chik Pante Kulu 2 Yayorin 3 Javiec 4 Perkumpulan Sesami 5 Univ. Muhammadiyah Palangkaraya 6 Walestra 7 Yayasan Pengembangan Akhlaq Mulia (YPAM) 8 Lembaga Olah Hidup (LOH) 	<ul style="list-style-type: none"> 1 RCCC UI, TREC, PT Potenza Putra Makara, LPU An Naba' 2 Jurusan Teknik Elektro Universitas Jenderal Soedirman 3 Yayasan Energi Bersih Indonesia (EnerBi) 4 Universitas Mataram 	<ul style="list-style-type: none"> 1 Fakultas Teknik Pertanian UGM 2 Pusat Perubahan Iklim ITB 3 Pusat Kajian Antropologi UI 4 FMIPA IPB 5 Yayasan Lingkungan Hidup Seloliman 6 YAKKUM Emergency Unit (YEU) 7 Yayasan Transformasi Kebijakan Publik Indonesia

⁷³ Derry Wanta. Informasi Pendanaan Kegiatan ICCTF 2015-2016. Delivered at FGD 'Peluang Kota untuk Mengakses Pendanaan Perubahan Iklim di Indonesia' July 18th 2016.

⁷⁴ Derry Wanta. Informasi Pendanaan Kegiatan ICCTF 2015-2016. ICCTF. Delivered at FGD 'Peluang Kota untuk Mengakses Pendanaan Perubahan Iklim di Indonesia' July 18th 2016.

3.1.2.3. PT SMI (SARANA MULTI INFRASTRUKTUR)

PT SMI is a state owned enterprise with 100% of its shares belonging to the Ministry of Finance of the government of Indonesia. PT SMI was established in 2009 with the mandate to be a catalyst in Indonesia's infrastructure development. It is estimated that Indonesia will require around IDR 6,000 trillion to meet the basic infrastructure requirements for 2015-2019⁷⁵ in accordance with the national mid-term development plan.

In building infrastructure there are several development phases: tendering phase, construction, and operational and maintenance (O&M). Many funding sources can be used during the development phases. However, many developers do not want to contribute in the project preparation stage due to the high risks involved, especially in projects related to climate change adaptation and mitigation. Nevertheless, the crucial point of infrastructure development lies in the project preparation and tendering processes. In terms of the financing gap in the project preparation stage, PT SMI is then given the mandate to also work on the project preparation phase in order to minimize the risk and to allocate the risk to the appropriate party, thus inviting more investment.

To support the local government, PT SMI plays the role to increase the credit worthiness of the local government related to infrastructure projects at the local level. Aside from that, PT SMI also provides advisory services on investment and finance. From their experience working with the local government, they have identified difficulties in multi-stakeholder engagements due to the high numbers of stakeholders that have an important role at the local level. Thus, they need to consult with each of the stakeholders in order to implement the activities.⁷⁶

⁷⁵ Gan Gan Dirgantara. Pendanaan Perubahan Iklim untuk Perkotaan. PT SMI. Delivered at FGD 'Peluang Kota untuk Mengakses Pendanaan Perubahan Iklim di Indonesia' July 18th 2016.

⁷⁶ The statement was delivered in the FGD "Peluang Kota untuk Mengakses Pendanaan Perubahan Iklim di Indonesia", July 18th 2016.

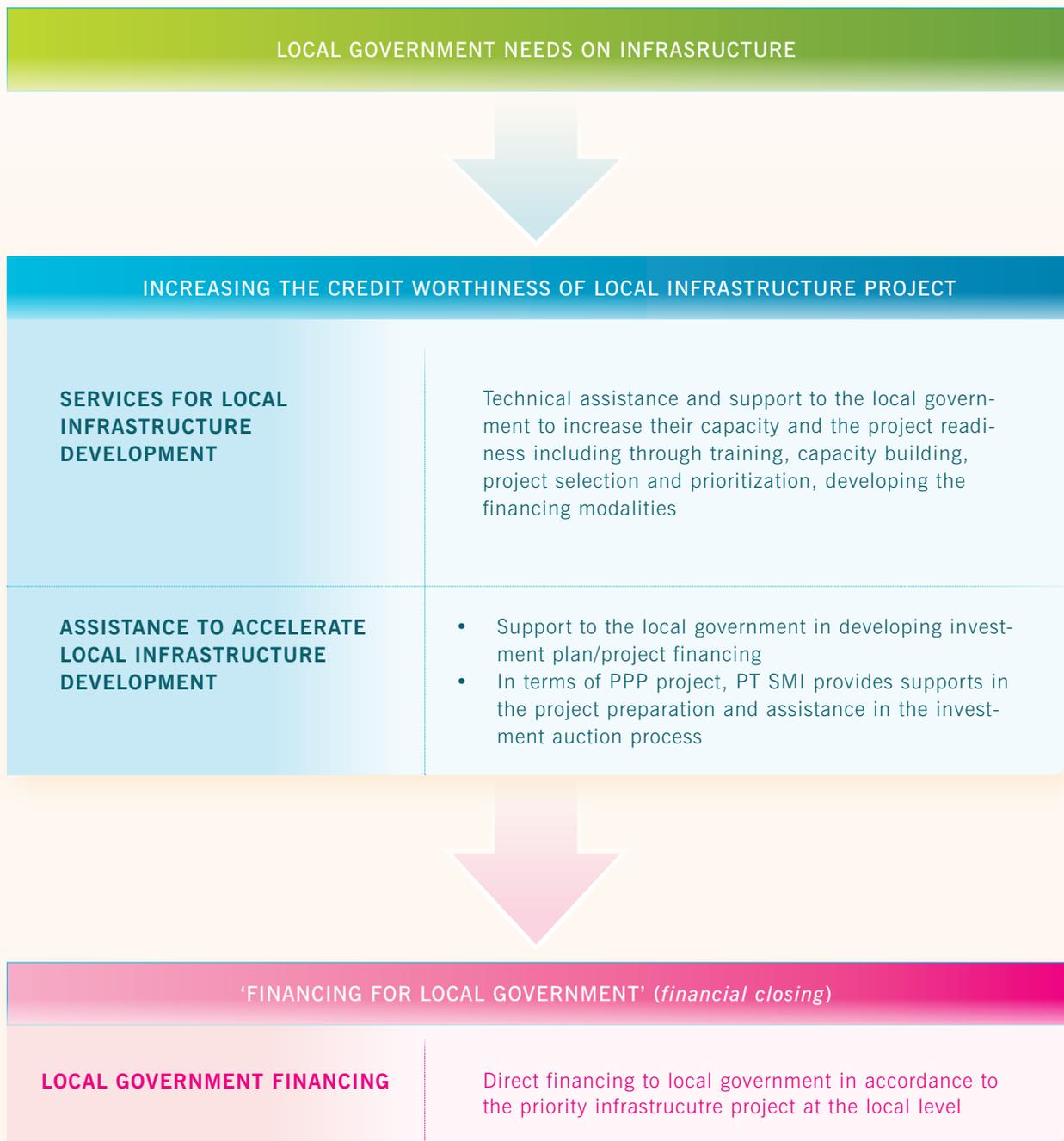


Figure 20 The role of PT SMI to increase the creditworthiness of local government and urban development⁷⁷

⁷⁷ Gan Gan Dirgantara. Pendanaan Perubahan Iklim untuk Perkotaan. PT SMI. Delivered at FGD 'Peluang Kota untuk Mengakses Pendanaan Perubahan Iklim di Indonesia' July 18th 2016.

PT SMI provides several financial schemes and is also working together with international institutions to finance and develop renewable energy projects. Thus, PT SMI can help local governments to provide financing as well as advise on matters related to financing climate actions. At present, PT SMI is applying for accreditation to the GCF as national implementing entities.

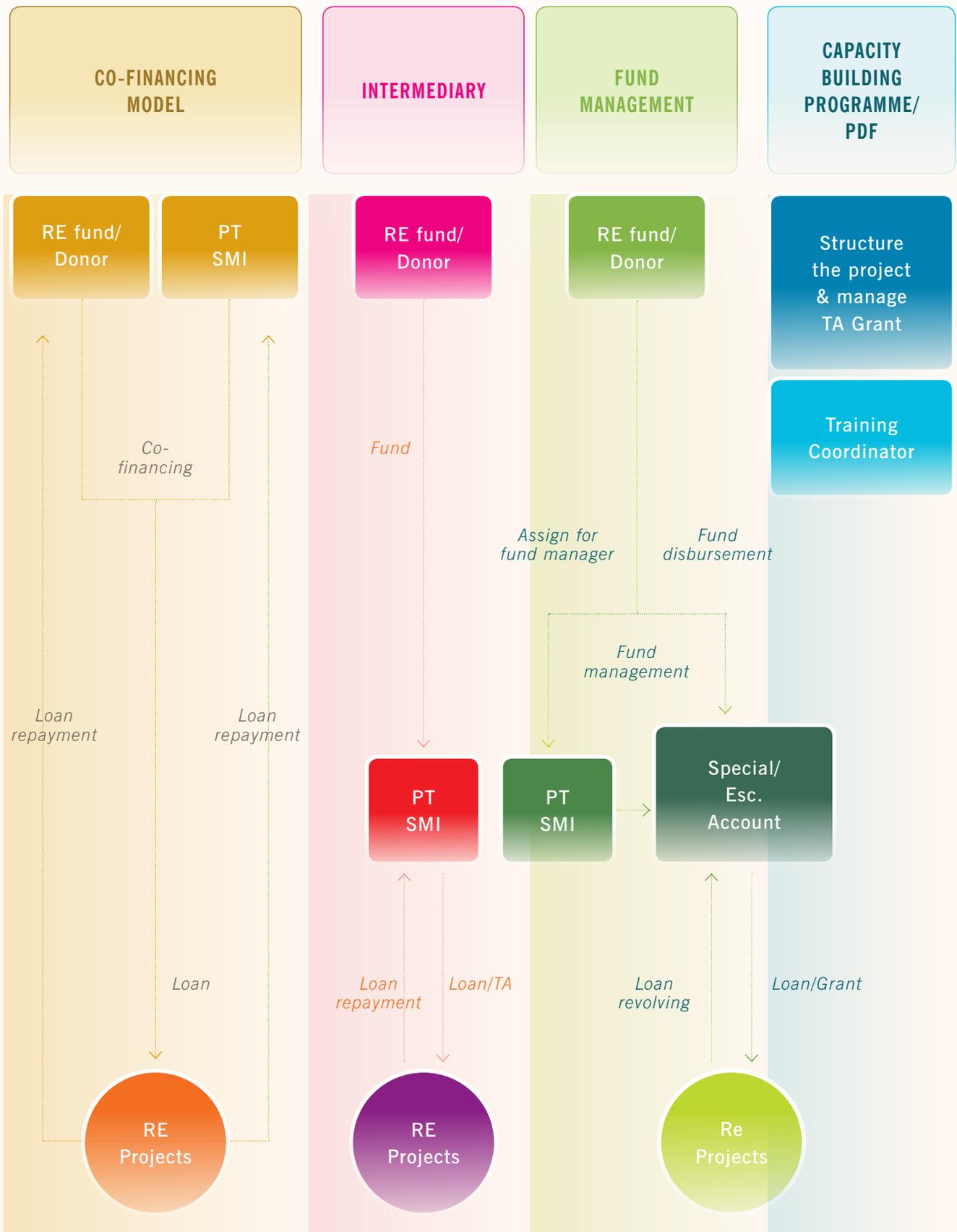


Figure 21 Various financial schemes that are provided by PT SMI for renewable energy projects⁷⁸

⁷⁸ Gan Gan Dirgantara. Pendanaan Perubahan Iklim untuk Perkotaan. PT SMI. Delivered at FGD 'Peluang Kota untuk Mengakses Pendanaan Perubahan Iklim di Indonesia' July 18th 2016.

3.1.3. LOCAL LEVEL

This study identified other local financing resources that can be accessed to finance local climate actions. The study finds that mobilizing climate finance at the local level beyond the local government budget is possible, however, it requires strong political will and strong administrative structures in order to ensure the appropriate use of the finance. The following are various possible financial sources for local climate action. However, at this stage, the identified sources of funding do not yet allocate for specific activities such as climate change actions.

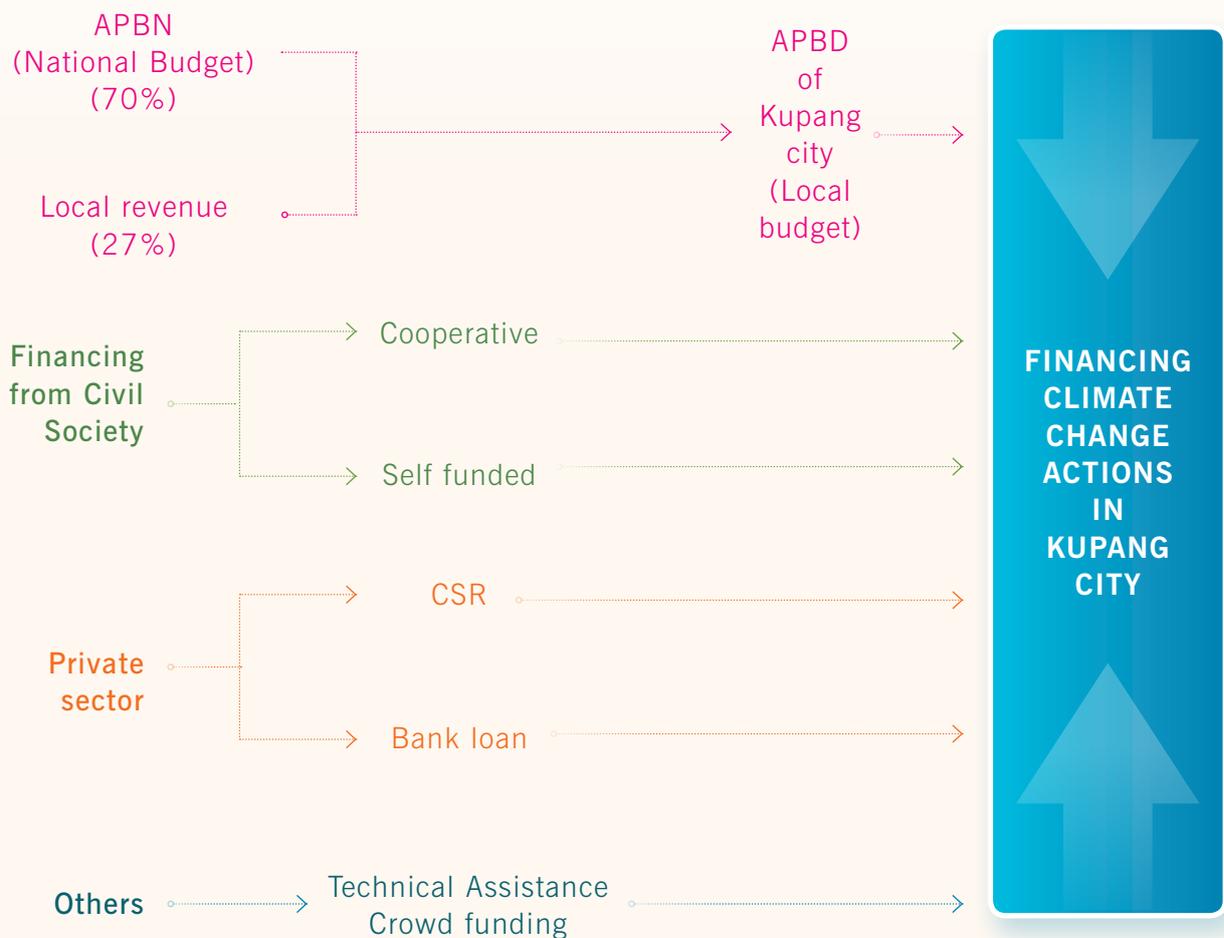


Figure 22 Climate change financing in Kupang⁷⁹

⁷⁹ IESR's analysis

Table 12 Possible funds at the local level that can be utilized for local climate actions⁸⁰

EXISTING INSTITUTION	NAME FINANCING	RELEVANT POLICIES	CURRENT ALLOCATION	EXAMPLES
Financial institutions (local banks or national bank branches)	Loans, etc.	OJKs Sustainable Finance	Not yet implemented. However, the sustainable Finance scenario aims to finance clean energy, which is a means to contribute to reducing greenhouse gas emissions	Credit for various small scale activities
Private sector (including banks)	Corporate Social Responsibility	Internal policies of companies	Diverse, depends on the companies. Usually for education and health	Education and health
Local government	Local budget	Local development strategy	At present the priority sectors for Kupang are education, health and infrastructure	Allocation to achieve the target of 30% open green space
Cooperative	Credit scheme	Shareholder meetings	Depends on the cooperative. Most of the existing, allocate for SMEs	Credit to buy cook-stoves
Individual	Investment	Market trend	Various, depends on the investor	Waste bank

3.1.3.1 LOCAL BUDGET

From 2011 to 2015, the local government budget of Kupang doubled from IDR 592 billion in 2012 to IDR 1,176 billion in 2016. The increase comes mainly from local revenue sources, which consist of local taxes, user fees (retribution fees), revenue from local asset management, and other local revenue. However, of the total income of Kupang, national transfer still dominates the composition of the local treasury (kas daerah).

⁸⁰ Extracted from two focus discussions that were undertaken in 2015 in Kupang

⁸¹ Directorate General on Fiscal Balance, Ministry of Finance

(IN MILLION RUPIAH)	2012	2013	2014	2015	2016
Total income	596,822	827,428	926,709	990,481	1,176,441
Local revenue	52,632	72,092	86,530	110,746	141,027
Local tax	21,922	36,321	46,892	54,627	67,360
Local retribution	13,620	18,716	21,673	22,993	31,095
Revenue from local asset management	7,382	9,229	10,550	14,550	18,605
Others	9,708	7,826	7,415	18,575	23,968
Fiscal balance transfer	525,552	622,249	680,540	706,899	854,947

Table 13 Kupang's development budget⁸¹

Kupang's Development Budget

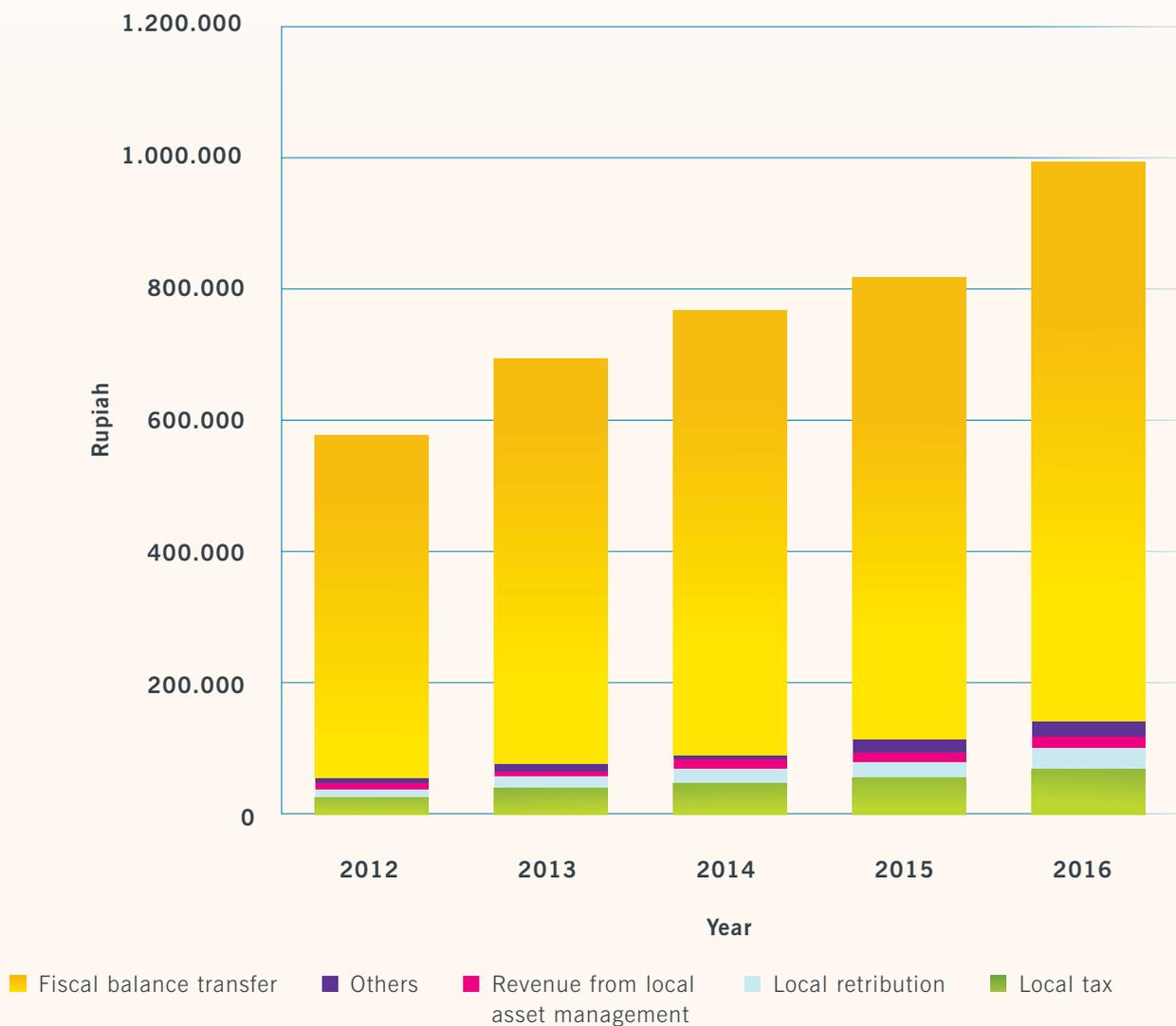


Figure 23 Kupang's development budget⁸²

⁸² General Directorate of Fiscal Balance, Ministry of Finance

For the last five years, the city of Kupang has set its main development focus on education, health and infrastructure. This can be seen from the last five year budget allocation, where health, education and infrastructure gained the highest portion of the budget, while financing for climate change related activities is considered to be low in comparison to these three priorities.

Kupang City Budget Proportion by Affairs 2011 – 2015

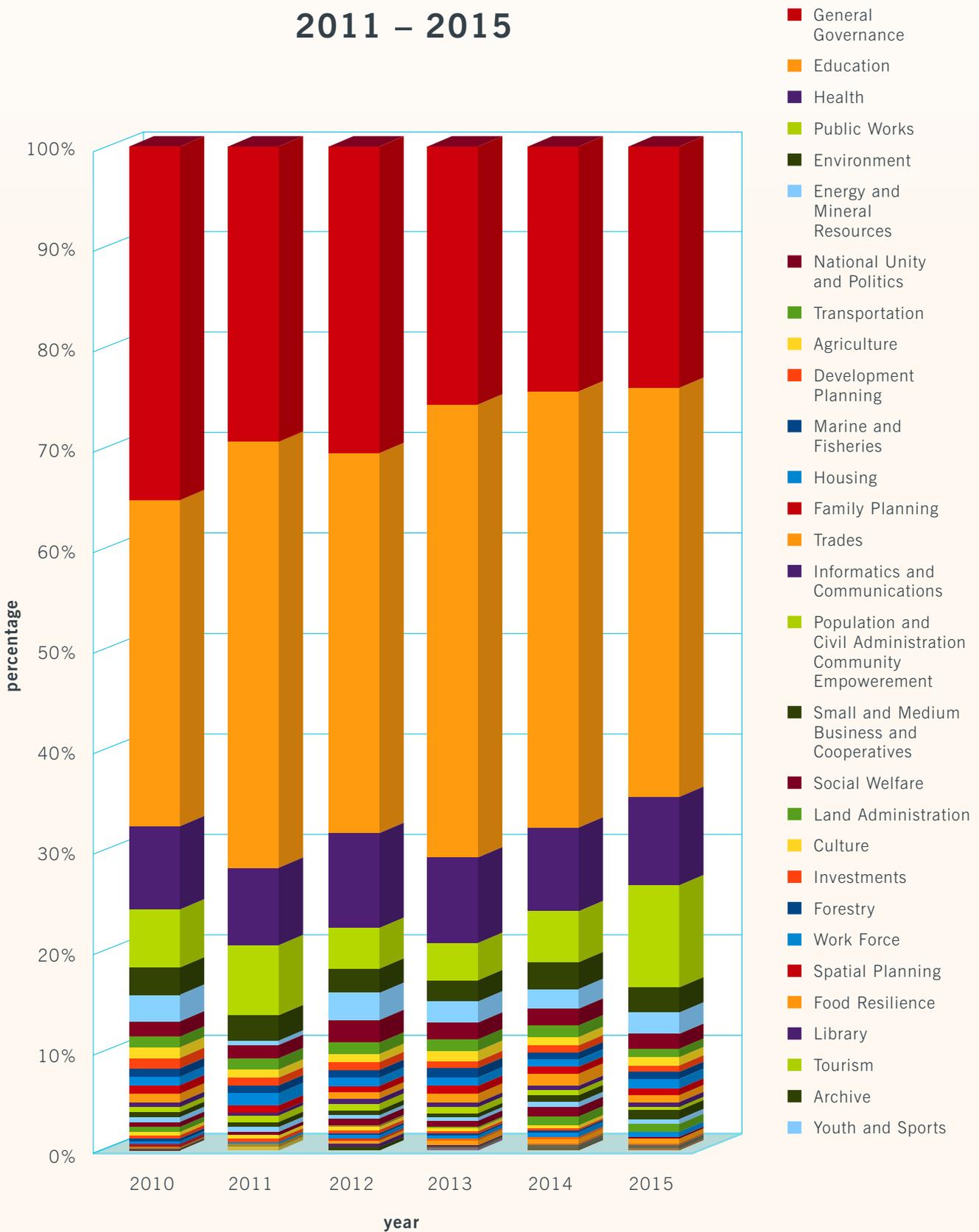


Figure 24 Kupang's city budget proportion by Affairs in 2011-2015⁸³

⁸³ General Directorate of Fiscal Balance, Ministry of Finance

Based on the Pikul and IESR analyses, around IDR 63 trillion is allocated for climate change-adaptation related activities, including those related to health, water security, disaster risk reduction, land use, environment destruction control, capacity building, resilience, food security, agriculture, and others. On mitigation, a budget of IDR 24 trillion is allocated for transportation, land use, waste, and energy.

Aside from using the local budget, the city of Kupang is also involved in international partnerships, for instance with IFAD (International Fund for Agricultural Development) on a Coastal Community Development Program, which is hosted by the Ministry of Fisheries and Maritime. This program works to empower coastal communities to increase their economy, manage coastal natural resources, as well as developing coastal infrastructure. This program is implemented in 12 sub-districts and 180 coastal villages, with a total project value of USD 43 billion over 5 years until 2017.



*ACCORDING
TO LAW NO.
28/2009, LOCAL
GOVERNMENT
CAN COLLECT
REVENUE FROM
LOCAL TAXES,
WHICH ARE THEN
USED TO IMPROVE
THE RELATED
TAXED SERVICES.*

Another source for Kupang's local treasury fund comes from local revenue, such as tax and retribution. According to Law No. 28/2009, local government can collect revenue from local taxes, which are then used to improve the related taxed services. For instance, in Kupang, there is a street lighting tax, which is collected from residents. In accordance to the Law No. 28/2009 article 56, part of the collected tax shall be allocated for the street lighting provision. Kupang has taken this opportunity to install solar-powered street lighting and change the existing street lamps to be more energy efficient. All other taxes, however, are collected into the local treasury fund, to be allocated in accordance to the development programmes of the Local Government Workplan (Rencana Kerja Pemerintah Daerah, RKPD) or Local Medium-term Development Plan (Rencana Pembangunan Jangka Menengah Daerah, RPJMD).

Table 14 Kupang's local retribution and local tax as well as the use of fund⁸⁴

LOCAL TAX AND RETRIBUTION	TOTAL (IDR)	USE OF FUND
Property tax	IDR 6,5 billion (2016*)	At the moment, these collected taxes are not used to improve the related service's quality. The revenue from the taxes goes to the local treasury fund
Ground water tax	IDR 120 billion (2016*)	
Category C mining materials (sands, rocks, and small rocks)	IDR 915 billion (2016*)	
Retribution (parking services, waste services, motor-vehicle testing, septic tank services, etc.)	IDR 7,523 billion (2015)	According to local decree, ⁸⁵ most retribution in Kupang, were decided through local regulations, to be transferred to the local treasury fund
Street lighting tax	IDR 18 billion/year	Since 2012 this fund has been allocated to install solar powered street lighting and to change the lamps of street lights to more efficient ones

* This number is the expected income for 2016

3.1.3.2. CIVIL SOCIETY ORGANIZATIONS AND THE LOCAL COMMUNITY

Civil Society Organizations (CSOs) often fund their climate actions through donor funding, however, there are also other actions that are self-funded. In Kupang, for instance, there is a business scheme that was developed to fund innovative programs selling self-made products. The non-governmental organization Geng Motor Imut (GMI) is one example. GMI produces several applicable low carbon technologies that it has developed, such as biogas installation, efficient cookstoves, and salt water desalination equipment, and sell to the public. The revenue from the sales are used to fund development programs for their research and innovation. To facilitate the business, GMI established a cooperative, called Tapaleuk Cooperative (Kotak Cooperative), that manages the marketing and sales

⁸⁴ Various sources

⁸⁵ Kupang local decree no. 15/2011 (Parking services retribution), Kupang local decree No. 4/2011 (waste services retribution), Kupang local decree No. 16/2011

of their products. Kotak Cooperative sells around 60 stoves every month with the price of IDR 450.000 per stove. To date, Kotak Cooperative has been able to sell around 400 stoves.⁸⁶

Another social enterprise that was developed by a civil society organization to address the waste problem in the City of Kupang is the Immanuel Waste Bank. The waste bank has a scheme of collecting recyclable waste from waste pickers/collectors which are then sold as production materials for industries in Surabaya. Immanuel waste bank also composts the organic waste they receive and sell the compost to the public. They have gathered many waste-collectors and provide them with wages and insurance, as well as loans for education and livelihood.

Other related climate activities conducted by civil society organizations can be seen in Table 15.

Table 15 Activities of Civil Society Organizations in Kupang and their financial sources (based on FGD November 13th 2015)

ACTIVITIES/PROGRAMS	ACTORS	FINANCIAL SOURCES
Rain-water harvesting	Civil Society Organizations	Donor
Recycling plastic waste and small industries	Civil Society Organizations	Self-funded
Information dissemination on weather and seasons for coastal communities	Community	Donor (this activity is no longer funded)

Another financial source identified in one focus group discussion was crowd funding. In Kupang, the potential of crowd funding is high, as long as the program is related to people’s development and is well targeted in terms of the issues and the beneficiaries.

⁸⁶ Direct interview with personnel from Kotak Cooperative.

3.1.3.3. CSR FROM LOCAL DEVELOPMENT BANK

In Kupang, the local bank, Bank NTT, has a Corporate Social Responsibility (CSR) fund to be disbursed of the amount of IDR 4.82 billion in 2015, which is significantly higher than their 2014 amount of IDR 1.22 billion.⁸⁷ There are six focus areas of Bank NTT's CSR: economic empowerment, education, health, sports, culture, and social. However, due to the lack of information on potential actions that can be funded by CSR, the fund remains idle or disbursed at a very low level. In order to use the fund, the local bank also looks for proposals to implement. Relevant climate action may be a good option for the disbursement of CSR. Thus, the project developer (which can be local government, CSOs, academia, or smaller industries) needs to submit proposals to access the fund. During this study, through one of the workshops conducted, a collaboration on climate action was identified by Bank NTT and Geng Motor Imut (GMI) – to work together in applying for funding through the bank's CSR fund. One of the potential climate actions is the scaling up of sea-water desalination equipment to provide clean water to more communities.

It was then identified that an information platform which provides information on lists of climate actions that can be implemented, as well as the costs of these actions, the various finance options available and how to access funds is highly needed for the city of Kupang.



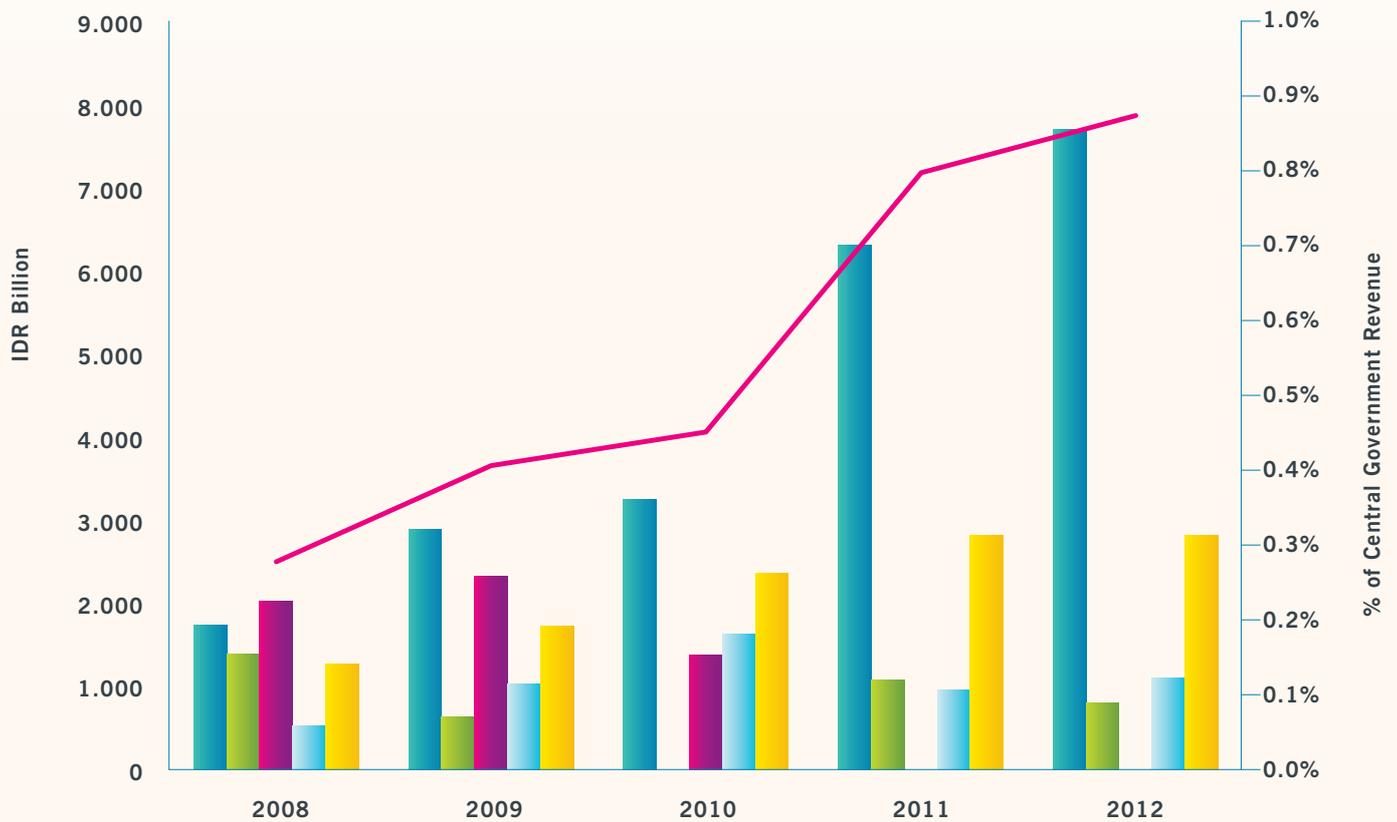
⁸⁷ <http://bali.bisnis.com/read/20160803/3/60942/bank-ntt-memanfaatkan-csr-guna-memberdayakan-masyarakat>

ALLOCATION OF CLIMATE FINANCE IN INDONESIA

After President Susilo Bambang Yudhoyono's 2009 pledge to reduce Indonesia's greenhouse gas emissions by 26% voluntarily by 2020, several domestic policy programs have been undertaken in Indonesia. The first was the issuance of the Presidential Regulation No. 61/2011, which consists of activities that will contribute to emissions reductions, and the second, conducted by the Ministry of Finance, was identification of the financial needs for Indonesia to meet the 26% reductions target by 2020 through public finance. The Ministry of Finance came up with Indonesia's First Mitigation Fiscal Framework (MFF), to see how far the national budget can finance the targeted emissions reductions. However, the first MFF only considered forests, peat-land, energy and the transportation sectors. Other sectors, such as agriculture, and industrial and wastewater treatment, will be assessed in the MFF's next study.

The first MFF, published in 2012, noted that tracking of how much national budget is being allocated for mitigation is easier because the mitigation activities are already included in the ministries work programme. However, the first MFF only considered domestic financial flows. Figure 25 below shows the trends in total mitigation expenditure for the central government, both on and off budget, and for local government, expressed in real terms, based on 2010 prices. For the central government, the spending is tracked from budget lines that relate to listed actions in Indonesia's Action Plan to Reduce Greenhouse Gas Emissions (Rencana Aksi Nasional Penurunan Emisi Gas Rumah Kaca, RAN-GRK), excluding expenditure on road improvements and irrigation repairs.⁸⁸

⁸⁸ Ministry of Finance. Indonesia's First Mitigation Fiscal Framework: In Support of the National Action Plan to Reduce Greenhouse Gases Emissions. Ministry of Finance. December 2012



Notes: Figures are presented in real 2010 IDR. Mitigation excludes roads and irrigation.

Source: CPEIR team calculation based on MOF data

- Central Govt expenditure on RAN GRK actions
- Investment Financing
- Kerosene Conversion
- Tax Subsidy
- Local Govt
- Total as % of Central Govt Budget

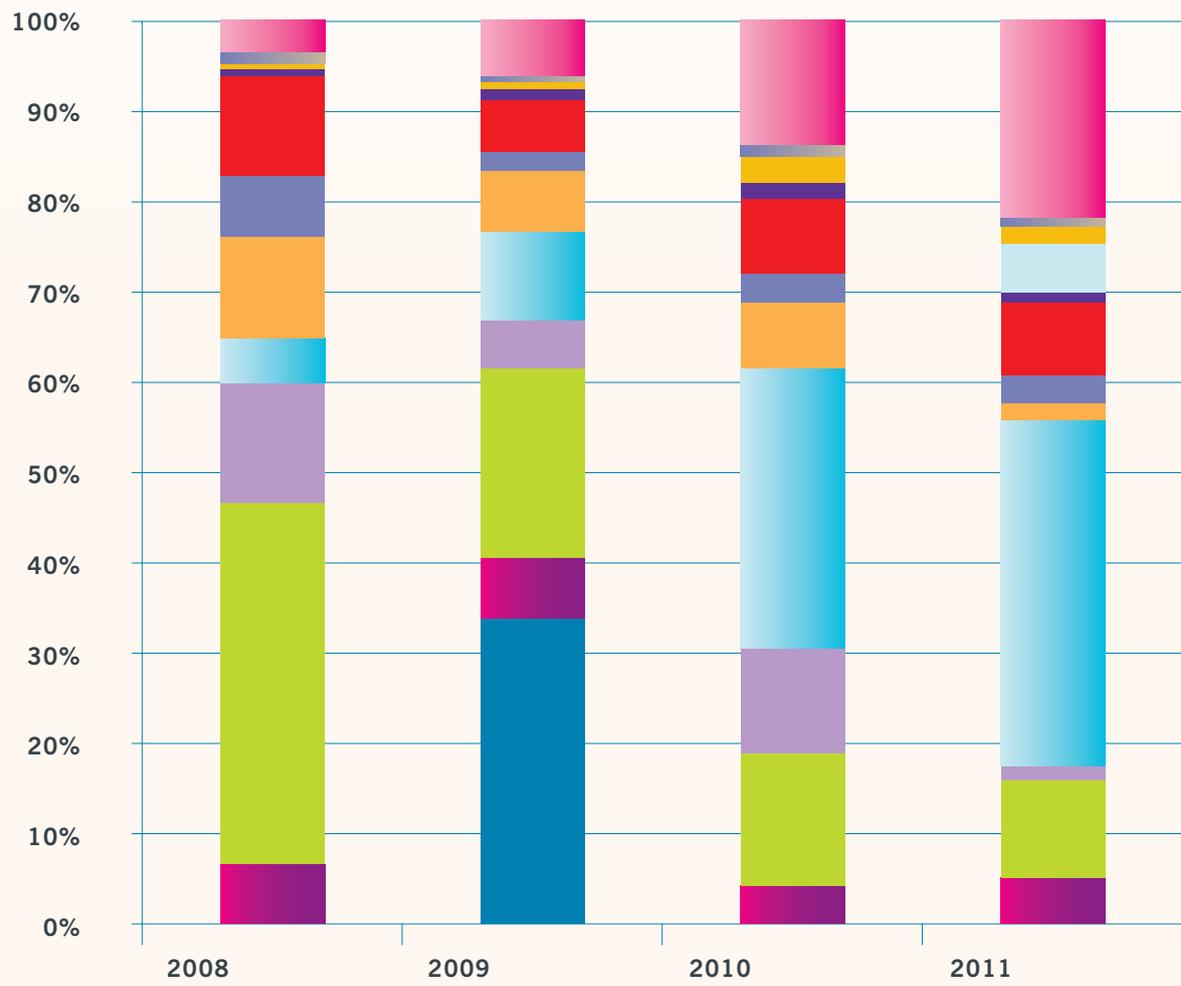
Figure 25 Mitigation budgeted expenditure for the central government⁸⁹

⁸⁹ Ministry of Finance. Indonesia's First Mitigation Fiscal Framework: In Support of the National Action Plan to Reduce Greenhouse Gases Emissions. Ministry of Finance. December 2012

⁹⁰ Ministry of Finance. Indonesia's First Mitigation Fiscal Framework: In Support of the National Action Plan to Reduce Greenhouse Gases Emissions. Ministry of Finance. December 2012

⁹¹ Ministry of Finance. Indonesia's First Mitigation Fiscal Framework: In Support of the National Action Plan to Reduce Greenhouse Gases Emissions. Ministry of Finance. December 2012

Figure 25 shows that there was an increase in budget allocation for mitigation from 2009 to 2012 from around 0.3% to around 0.9%. The allocation for mitigation action at the local level also increased from 2008 to 2012, from around 0.1% to 0.3% of total central government spending.⁹⁰ This trend shows that the national planning system has been able to respond to the increased priority that has resulted from required mitigation actions as listed in RAN GRK and thus is able to make a substantial change in budget allocation.⁹¹



Source: CPEIR team calculation based on MOF data

- Improvement of waste management
- Institutional Development for Sustainable Forest Management
- Improved Forest Security from fire and illegal logging
- Low Emission Transport
- Renewable Energies
- Sustainable Wood and Non Wood Commodities Production
- Water level elevation stabilization and better water circulation
- Clean Fuel and Technology
- Increasing Sink Capacity through forest rehabilitation & tree planting
- Energy Efficiency
- Improved Forest Security from fire and illegal logging
- Water level elevation stabilization and better water circulation
- Ecosystem Management and Forest Protection
- Low emission agricultural practices
- Optimization of land and water resources

Figure 26 Expenditure on RAN GRK actions by Ministries, excluding roads and irrigation⁹²

⁹² Ministry of Finance. Indonesia's First Mitigation Fiscal Framework: In Support of the National Action Plan to Reduce Greenhouse Gases Emissions. Ministry of Finance. December 2012

The Climate Policy Initiative publication on the climate finance landscape in Indonesia has considered climate finance from the international flows, but only for public finance and not private finance. The Global Landscape of Climate Finance reports have acknowledged the majority contribution



*THE SUPPORTED
“INDIRECT”
ACTIVITIES MOST-
LY TARGET THE
FORESTRY SEC-
TOR, AT AROUND
73%, WHILE
10% TARGET
AGRICULTURE AND
7% FOCUSED
ON ENERGY.*

of private finance in climate finance flows, thus the same may occur in Indonesia. As the coverage of climate finance landscape in Indonesia report does not include private finance, the actual amount of total climate finance flows may be higher. The report showed that at least IDR 8.377 billion (USD 951 million) of climate finance from public sources was disbursed in Indonesia in 2011.

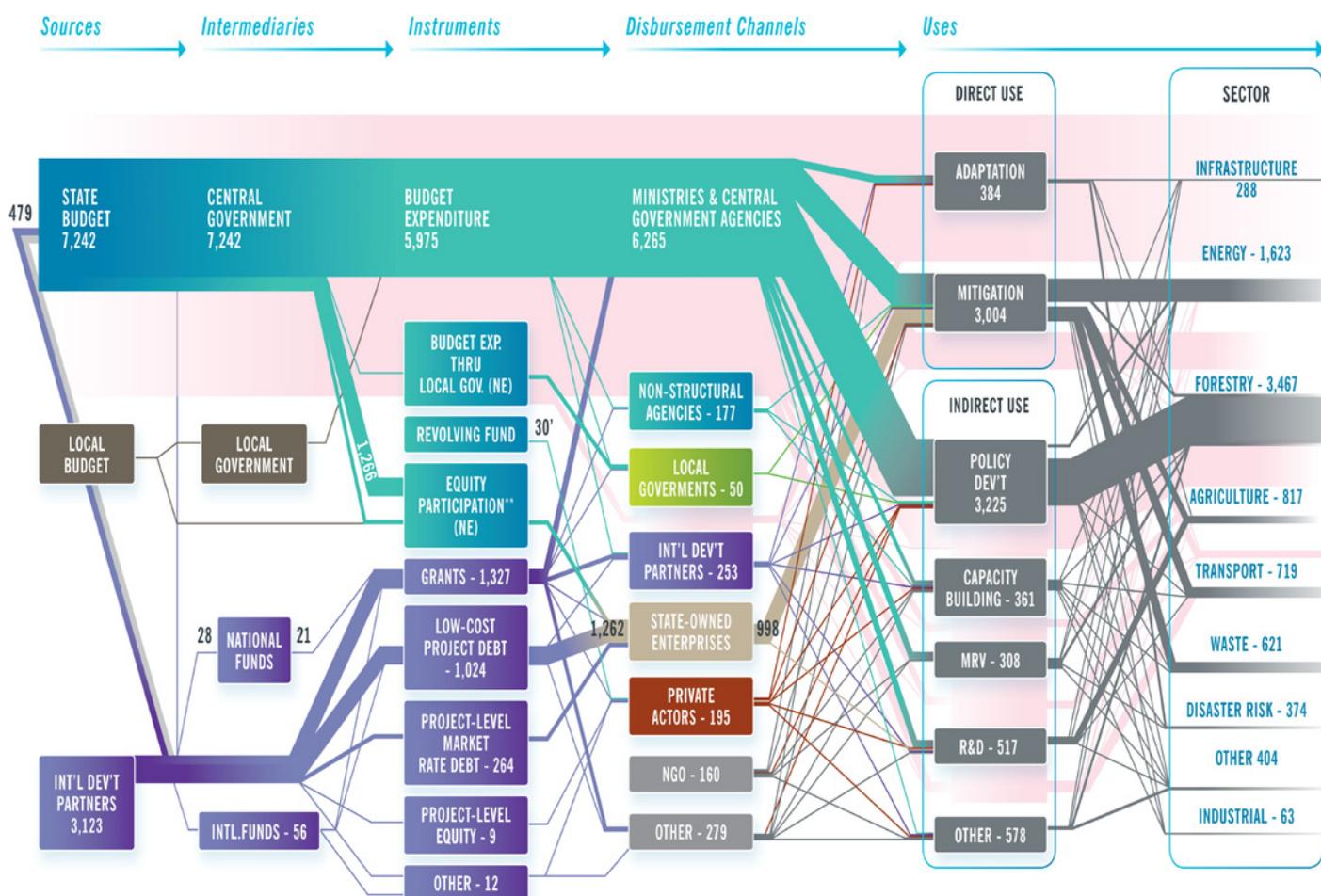
The domestic climate finance that was disbursed through government budget transfer instruments in Indonesia is at least IDR 5.526 billion (USD 627 million) or 66% of public climate finance. The bulk of domestic climate finance (almost 75%) are allocated to support essential “indirect” activities, such as policy development, research and development, establishment of measuring, reporting and verification systems, and other enabling environment.

The supported “indirect” activities mostly target the forestry sector, at around 73%, while 10% target agriculture and 7% focused on energy. This aligns with the fact that the largest source of emissions in Indonesia came from the land sector. Finance for direct mitigation actions also targeted sectors that produce high emissions, including transportation (35%), waste and waste-water (26%), agriculture and livestock management (27%) and energy (10%). CPI (2014) also indicated that little finance directly flowed to forestry and land use. While finance for adaptation mostly went directly to disaster risk management.⁹³

However, in its report CPI states that despite that most of the climate actions will need to be implemented at the local level, there are blockages to the smooth flow of domestic climate finance to local government. Thus, CPI suggests that urgent work is needed to understand how to support timely, efficient and effective scale up of climate finance at the provincial and district levels.⁹⁴

⁹³ Climate Policy Initiative and Fiscal Policy Agency. The landscape of public climate finance in Indonesia. July 2014.

⁹⁴ Climate Policy Initiative and Fiscal Policy Agency. The landscape of public climate finance in Indonesia. July 2014.



Notes: Figures are indicative estimates of annual flows for 2011. All data presented relates to transfers or disbursements during in 2011. Flows are expressed in IDR billions and rounded to produce whole numbers, and as such due to rounding for presentation displayed values might not add up. We show finance that we could identify clearly as climate specific as “solid” flows. The diagram captures upfront capital investment costs for low carbon and climate resilient activities, plus activities that indirectly support mitigation or adaptation, such as policy development, capacity building, setup of MRV systems or research and development. We only track upfront investments and not lifetime inflows. There is significant uncertainty around how much climate specific finance is being disbursed from the state budget to support indirect activities in general, and adaptation activities in particular. We represent the full range, including the band of uncertainty (up to an additional IDR 10.008 billion), in the diagram as a “shadow”, reflecting the scale of climate specific finance and portion of potentially relevant finance that we could not verify.

* We included transfers where we know they happened (ICCTF, Geothermal Risk Mitigation Fund, Exim-bank), although there were not disbursement to projects in 2011.

** Equity participation is comparable to what we call balance sheet financing in the global landscape.

Figure 27 The landscape of public climate finance in Indonesia in 2011⁹⁵

⁹⁵ Climate Policy Initiative and Fiscal Policy Agency. The landscape of public climate finance in Indonesia. July 2014.

CLIMATE FINANCE GAPS IN KUPANG

Although there are various financial sources that can be used for climate actions, there are gaps that need to be closed. This report identifies aspects on governance, adequacy, and effectiveness of climate finance in Indonesia and the existing gaps. This chapter will discuss climate finance gaps in cities, particularly in Kupang.

5.1. GOVERNANCE

Accessing climate finance from various sources can be done through intermediaries. In Indonesia, for cities or provinces to access climate finance, they must go through technical ministries (central government), the Indonesia Climate Change Trust Fund, or PT SMI. However, each intermediary has their own fund recipients and funding sources. For instance, technical ministries can only receive funding from the Ministry of Finance, in accordance with the ministries' annual workplan, which is developed under the guidance of the medium term development plan. However, technical ministries can also receive funds through bilateral cooperation. ICCTF currently receives funding from the national budget and bilateral donors; while PT SMI receives funding from the national budget, and through international as well as bilateral cooperation.

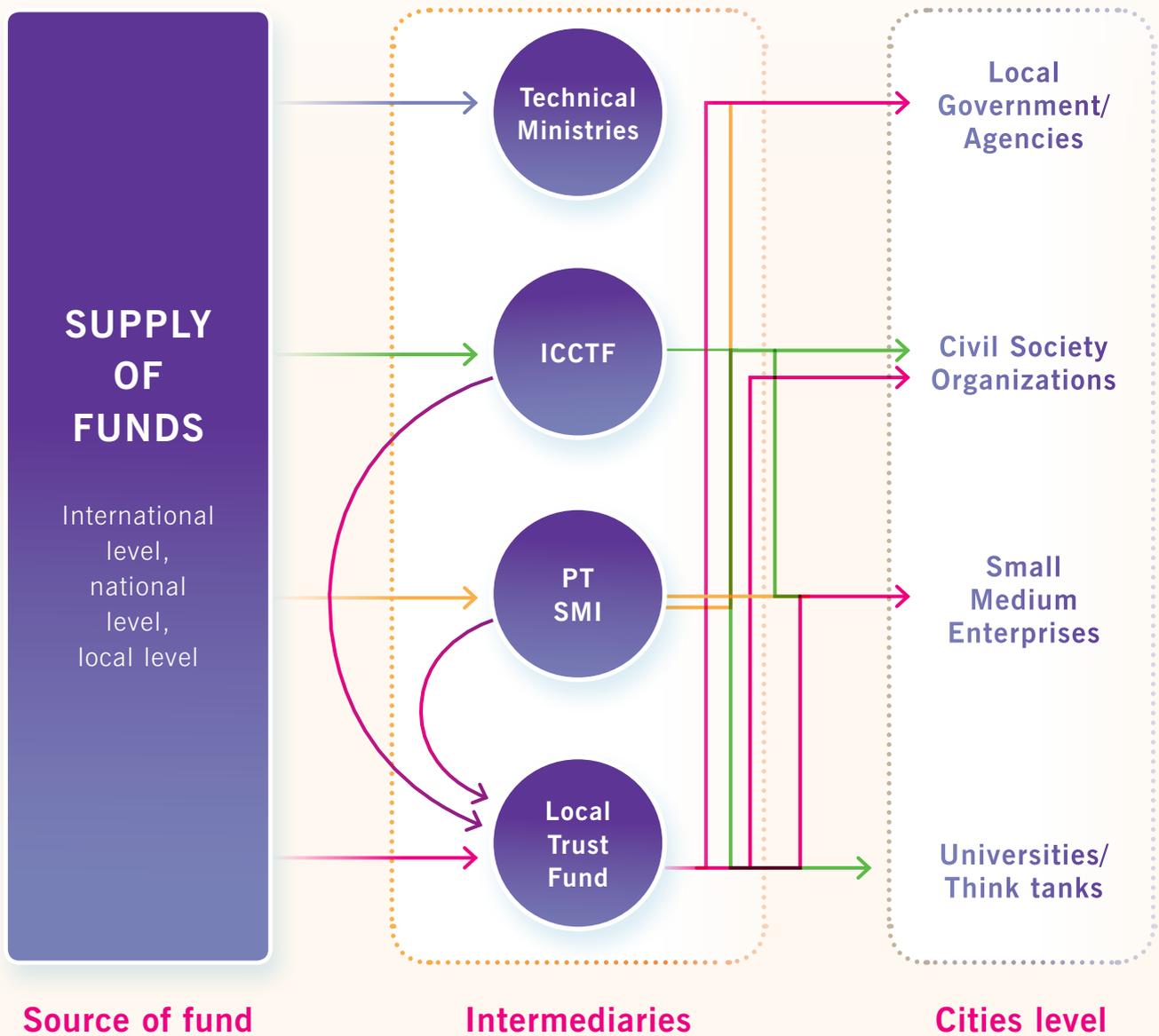


Figure 28 Simplified diagram on accessing climate finance⁹⁶

Technical ministries can only provide funds for local government; ICCTF can only provide funding for CSOs, the private sector, and universities/think tanks, while PT SMI can provide funding for both local government and the local private sector. To ensure good governance of climate finance at the city level, strong coordination of the intermediaries is required to ensure funds flow to the right activities, and which ideally support the implementation of the low carbon and resilient develop-

⁹⁶ IESR's analysis



THE STUDY IN KUPANG SHOWS THAT THERE IS CURRENTLY NO REGULATORY FRAMEWORK ON CLIMATE CHANGE, OR CLIMATE CHANGE ACTION PLAN OR STRATEGY, AT THE CITY LEVEL, TO HELP THE EFFECTIVENESS OF CLIMATE FINANCE DISBURSEMENT.

⁹⁷ Climate Policy Initiative and Fiscal Policy Agency. The landscape of public climate finance in Indonesia. July 2014.

ment plan developed by the local government. The coordination should be led by development agencies or planning commissions, which exist at the local level. For the local government to access international funding, establishing a body with proven financial management capacity is an option. However, this body must be given a mandate and needs to have the capacity to manage and coordinate climate investment in the area.

There are two possible approaches to governing climate related activities: **(i)** through institutional arrangements and budget and planning systems that are set out for regular development planning; and **(ii)** to have a climate change trust fund. At the local level, option **(i)** leads to mainstreaming climate change in local development plans, which secures climate change funding from the local budget. Option **(ii)** will be financed by the non-development budget and other possible sources. However, as for the institutional arrangements, since the climate change fund is not necessarily under governmental jurisdiction, it has to be managed by a secretariat with a board of trustees and a technical committee. A trust fund may finance various stakeholders, such as government agencies, non-governmental organizations, universities and research organizations.

The study in Kupang shows that there is currently no regulatory framework on climate change, or climate change action plan or strategy, at the city level, to help the effectiveness of climate finance disbursement. CPI (2014)⁹⁷ acknowledges that the inclusion of climate action plans such as the RAN-GRK, RAD-GRK and RAN API in the broader national and local planning process, as integrated in the medium term development plan (2015-2019), will help to effectively link plans to budgets and accelerate the implementation of climate activities. However, CPI (2014) also acknowledges that there is a need to assess the existing mechanisms that can be used or adopted, in order to channel finance to the local level at the scale and pace required, or if a new instruments or mechanisms are needed.



THE ABSENCE OF COORDINATION AMONG STAKEHOLDERS WILL ALSO AFFECT THE DISBURSEMENT OF THE FUND TO IMPLEMENTING ENTITIES. COORDINATION AT THE LOCAL LEVEL MUST ALSO BE SYNCHRONIZED WITH THE NATIONAL LEVEL.

Indonesia, with the National Action Plan to reduce Greenhouse Gas Emissions (RAN GRK) and the National Action Plan for Climate Change Adaptation (RAN API) integrated in the National Medium Term Development Plan (RPJMN) 2015-2019, has provided guidance for agencies and ministries to take climate action into consideration in developing their work plans. At the same rate, the National Medium Term Development Plan (RPJMN) should also be the guidance by which local government develop their medium term development plan, which should ideally be channeled into concrete programmes at the local level. However, based on the research that was done, it appears that not all cities in Indonesia have the capacity to design a set of programmes in which climate change is well integrated. Having said that, ensuring good climate change governance at the city level remains a challenge.

The coordination between local agencies in Kupang regarding climate change, also needs to be strengthened. Currently, due to the absence of a low carbon and resilient development plan in Kupang, there is no clear division of responsibilities among ministries (national level) and agencies at the local level. The absence of coordination among stakeholders will also affect the disbursement of the fund to implementing entities. Coordination at the local level must also be synchronized with the national level.

In order to achieve good governance, local government needs to build its capacities through increasing their understanding of climate change (both adaptation and mitigation), disaster risk reduction, and climate finance; **(ii)** to develop climate change and disaster-smart local development strategic planning at the local level; **(iii)** to establish a public financial management system in order to prioritize actions and identify costs and sources of funding; and **(iv)** to ensure that they have proper monitoring and evaluation systems in place.⁹⁸

⁹⁸ IIED. Briefing Paper: Climate Finance Governance in Bangladesh: Synergies in the Financial Landscape. IIED. April 2014.

5.2. ADEQUACY

Although various instruments are provided by the central government for local government to access, the amount of funding that can be accessed at the city level, is still limited. In Kupang for instance, there is a financial need to fund waste-water management, waste, and drainage in the city. Kupang has estimated the financial needs to be IDR 276.967 million in the period 2015-2019. However, in the planning for the local budget, the available funding is only IDR 53.47 million, which results in a gap of IDR 223.497 million. Clearly, financing climate actions through public finance is not enough. More funding sources are needed in order to close the gap. This may be able to be solved through cooperation with the private sector, accessing other central government transfer instruments (such as DAK), or other possible resources.

⁹⁹ Drinking Water and Environmental Health Working Group of Kupang Municipal Government. 2014

¹⁰⁰ Drinking Water and Environmental Health Working Group of Kupang Municipal Government. 2014

Table 16 Budget recapitulation⁹⁹

NO.	ACTIVITIES	FISCAL YEAR					TOTAL BUDGET (IDR MILLION)
		2015	2016	2017	2018	2019	
1.	Waste water treatment	534	15.032	28.577	50.131	55.485	149.759
2.	Waste	816	8.567	19.436	42.637	21.264	92.720
3.	Drainage	0	9.213	8.752	8.302	8.221	34.488
Total		1.350	32.812	56.765	101.070	84.970	276.967

Table 17 Financial gap for sanitation¹⁰⁰

NO.	NOTES	FISCAL YEAR					TOTAL BUDGET (IDR MILLION)
		2015	2016	2017	2018	2019	
1.	Financial needs	1.350	32.812	56.765	101.070	84.970	276.967
2.	Indicated available fund (solely through local budget)	6.994	7.394	12.394	12.994	13.694	53.470
3.	Funding gap (IDR)	-5.644	27.218	43.571	87.076	71.276	223.497
4.	Gap (%)	N/A	21,36	22,15	12,98	16,12	19,31

5.3. EFFECTIVENESS

Effectiveness of climate finance at the city level can be achieved through climate change policy at the city level and sectoral levels. At the city level, it is important for the city government to have a regulatory framework that integrates climate change in its medium-term development planning, which also acknowledges existing administrative boundaries. The idea of deriving the provincial action plan to reduce greenhouse gas emissions from the national action plan is to ensure the effectiveness of climate finance disbursement from the central government to the provincial government. However, a derivation from the provincial action plan to city action plan, is also needed in order to ensure that cities can perform in accordance with its role and function, to achieve climate actions targets.

Different levels of authorities can also affect the effectiveness of climate finance. CPI (2014) has taken a lesson from Central Kalimantan province, where the study identified that levels of authority in deciding how and what activities that can be implemented by the provincial government can affect the effectiveness of climate finance. For instance, Central Kalimantan province, in accordance to the Governor's Decree on Provincial Action Plan to reduce greenhouse gas emissions, has identified its levels of authority, and divided them into three categories.¹⁰¹

(i) Isolated sectors, such as waste management, where the provincial government has full responsibility including in developing a business-as-usual (BAU) baseline, and implementing mitigation options.

(ii) Open sectors (e.g., industry and transportation), where the provincial government has limited responsibility to set the BAU and select mitigation options (as these have been set by the central government). In this case, provincial government must provide baseline data, implement mitigation activities, and report.

¹⁰¹ Climate Policy Initiative. Landscape of Climate Finance in Indonesia. 2014

(iii) Mixed sectors (i.e. agriculture, and forestry and peat lands), where it is difficult to delineate provincial and central government authority or responsibility, so that close coordination between the two levels of government is required during implementation.

Based on the above divisions, it is obvious that a clear division of authority will determine how much finance can be accessed and managed by the local government, in this case, the city. While in principle, devolving managing authority to the local level may be more effective than managing it at the higher level, especially in regard to monitoring.

The implementation of climate actions are ideally located at the local level, in cities and provinces. Importantly, however, more instruments to access finance need to be provided for the cities and provinces in order to implement relevant climate actions. This is due to the fact that the local government has limited options in generating local revenue and also has limited access to other resources. Therefore, to open more options for local government to access other resources, various financing mechanisms should be developed in such a way that the local government can access the funds without solely relying on transfers from the central government. Although there are various central transfers available, most are not yet dedicated to nor designed to help the local government in achieving local climate change targets.



“

THE IMPLEMENTATION OF CLIMATE ACTIONS ARE IDEALLY LOCATED AT THE LOCAL LEVEL, IN CITIES AND PROVINCES.

CLOSING THE GAP

To close the climate finance gaps in cities there are several aspects that need to be addressed: (i) Access and mobilization of climate finance; (ii) Allocation of climate finance; (iii) Reporting; (iv) Measuring the impact of climate finance.

6.1. ACCESS AND MOBILIZATION OF CLIMATE FINANCE

Another finding from the study is the fact that there are possible financial sources that can be utilized to finance climate actions at the city level. From several focus group discussions that were conducted in this study, a discussion on idle funds in state-owned companies emerged. For instance, it is a mandatory for state-owned companies to fund PKBL (Program Kemitraan dan Program Bina Lingkungan or partnership program and environmental management program),¹⁰² where the amount will be determined by Ministry in the case of a Public Corporation (Perum) or shareholders meeting for government owned operating companies (Persero).¹⁰³ In Article 8 of the decree, it is said that the state-owned enterprise can collaborate with other state-owned enterprises that can channel the fund, or even other entities, to channel the fund. Other possible sources include national transfers, such as from the Specific Purpose Fund (DAK). Other sources available are from the international level, such as from the Global Environmental Facilities (GEF) and Green Climate Fund (GCF).

However, specific requirements must be met in order to access the available fund.

¹⁰² Ministry of State-Owned Enterprises Decree No. PER-07/MBU/05/2015 Article 2 (1).

¹⁰³ Ministry of State-Owned Enterprises Decree No. PER-07/MBU/05/2015 Article 9 (5).

(i) A concrete proposal that can be implemented and that supports the local development plan that aims for low carbon and resilient livelihoods. The proposal must be developed based on the needs assessment of the area. For instance, a proposal to build a sea-water desalinator must be supported with information on water demand in the area, the number of households that can access the clean water produced by the desalinator, as well as the required capacity of the sea-water desalinator.

(ii) To access the international level fund, an entity that has a robust fiduciary standard and environmental and social safeguards as part of the institutional modalities needs to be established. Funds can only be accessed by an organization that is accountable in managing the funds; not only to ensure the flow of income, but also to allocate the fund in a way that is concrete, measurable, reportable and verifiable. For a Fund to disburse the money, it will need assurance that the entities can manage the fund in an accountable manner, as well as be able to allocate the Fund to activities that do not violate the environmental standards, as well as human rights.

6.2. ALLOCATION OF CLIMATE FINANCE

This study also looked at possible funding that can be used to finance climate change actions towards low carbon and resilient livelihood development for cities in Indonesia; Kupang was chosen to be the case study city. This study finds that a clear definition of ‘financing cities’ is required to understand which financing is dedicated to climate change, and which financing is solely for non-climate change actions. This definition should be applied for financing that can be accessed only by the municipalities, or for financing that can be accessed by various stakeholders to conduct climate actions at the city level. It is obvious that there are many actors at the city level (local government, private sector, civil society organizations, and academia) that can play a role in climate change actions, both for mitigation and adaptation. Thus, providing a space for each stakeholders to play a role in the achievement of the local low emission



THE CITY OF KUPANG IS CURRENTLY LACKING A GREENHOUSE GAS EMISSIONS REDUCTION STRATEGY, HOWEVER, THEY DO HAVE AN ACTION PLAN FOR ADAPTATION AND DISASTER RISK REDUCTION WHICH WAS DEVELOPED RECENTLY WITH THE SUPPORT OF THE UNDP.

and resilient livelihood development plan, may help the local government to accelerate the achievement of its climate actions targets. Incentives may be required to stimulate other stakeholders to contribute.

However, what is missing in Kupang is a low carbon and resilient livelihood development plan at the city level. Kupang needs to develop a baseline for both mitigation and adaptation actions, which includes the projected climate change impacts for the city of Kupang with the current development scenario. The baseline will help Kupang identify vulnerable sectors that will be highly impacted by climate change, thus Kupang can identify what kind of preventive and responsive actions to take in order to reduce or minimize the impact. The city of Kupang is currently lacking a greenhouse gas emissions reduction strategy, however, they do have an action plan for adaptation and disaster risk reduction which was developed recently with the support of the UNDP. In the end, clear objectives for low carbon and resilient livelihood development should be set by the city government of Kupang.

In most cases, greenhouse gas emissions are produced by industries, including power plants and transportation. Thus, in order to develop greenhouse gas emissions reduction strategies, engaging the private sector is crucial. It is similar with the adaptation strategy, where communities will also be impacted. Thus, multi-stakeholder engagement in developing low emissions and resilient livelihood programmes is crucial. Aside from that, Kupang needs to identify their financial needs in order to implement their low emission and resilient livelihood development strategy, and to identify the financial gaps and the means by which to close the gaps.

Another capacity building need that was identified is the need to develop feasibility studies and conduct vulnerability assessments. This may not have to be done by the municipal government, but the government needs to come up with such analyses in order to lay a foundation upon which to build their development strategies.

6.3. REPORTING AND MEASURING THE IMPACTS OF CLIMATE FINANCE

With various funds and climate actions, a system of MRV (Monitoring, Reporting, and Verifying) is needed. As such, engagement with multi-stakeholders will be required which will lessen the burden on the local government. However, to be able to do MRV, it has to be clear which programmes and activities need to be MRV-ed.

Another issue affecting the MRV system is the definition of climate finance. Having a clear definition of climate finance is important to distinguish it from ODA (Official Development Assistance). Developed countries may use criteria developed by the Organization for Economic Cooperation and Development (OECD)'s Development Assistance Committee, which has developed indicators for climate change mitigation and adaptation, or a definition used by the Multilateral Development Banks (MDBs) including the African Development Bank, the Asian Development Bank, the European Bank for Reconstruction and Development, the European Investment Bank, the Inter-American Development Bank, the World Bank, and the International Finance Corporation. Indonesia, in this case, does not yet have a clear definition of climate finance.

Setting a classification system to define climate actions in Indonesia will help to measure the impact of climate finance as well as in doing the reporting. The level of detail for the classification system can be developed through several levels. For instance, the first level indicates types of activities, whether it is climate change adaptation or climate change mitigation. The second level indicates activities by sector. For instance, sectors under climate change mitigation can cover: energy, forestry, transportation, and manufacturing. The third level may indicate the technology used in each sector. For instance, under the energy-sector activities, related technologies



ANOTHER CHALLENGE RELATES TO NON-STATE ACTORS, INCLUDING NON-GOVERNMENTAL ACTORS AND PRIVATE SECTOR ACTORS WHO MAY HAVE INVESTED CLIMATE FINANCE FOR CLIMATE ACTIONS, HOWEVER THEIR INVESTMENT IS UNTRACEABLE.

include wind technology, solar, geothermal, and so on. However, countries need to determine a level of detail that is practical and that meets their internal policy needs.

Sufficient institutional arrangements, including clear roles and responsibilities for different actors, is very important for effectively managing, monitoring, and coordinating climate finance. Having this kind of institutional arrangement will help countries to determine where climate finance is flowing to, and whether it is being used in line with its intended purpose. WRI, in its workshop report,¹⁰⁴ has indicated that difficulties arise in ensuring effective coordination and information sharing. Integrating climate change into development planning at national, sectoral, and subnational levels was also noted as a key challenge.

Another challenge relates to non-state actors, including non-governmental actors and private sector actors who may have invested climate finance for climate actions, however their investment is untraceable.

An option of having a local trust fund, where all possible funds can be pooled in the trust fund and the trust fund itself can allocate the fund to appropriate climate actions in accordance with the needs of the city, was offered. The trust fund shall be able to be accessed by local governments, CSOs, the private sector, and academia, which will implement the climate change framework of actions developed and agreed upon through multi-stakeholder consultation. Not only may it conduct the available projects or programmes, but this entity can also do the monitoring and verification, as long as the projects are not conducted by the entity or entity members themselves. This entity will do the monitoring and reporting on the source of climate finance, as well as the impact. Having one entity will reduce the difficulties in managing, monitoring and coordinating the existing climate finance from all actors.

¹⁰⁴ Tirpak, et.al. Working Paper: Monitoring Climate Finance in Developing Countries: Challenges and Next Steps. World Resource Institute. March 2014.

Presidential Decree No. 80/2011 has introduced the trust fund to be a financial instrument that can be established to meet certain needs. It is likely that a trust fund will help the city overcome any limitations that currently exist in relation to the local treasury fund (APBD). The trust fund also ensures transparency and accountability, while at the same time the process will be faster than going through bureaucracy.

Trust fund is a financial asset management, which can be in the form of property, money, or security. Usually, if a donor would like to disburse a fund, a trustee is required. The fund can only be used for the particular purposes and objectives set by the donor. In order to ensure its use, a board of trustees is needed, to oversee the disbursed of the fund. Those to whom the fund is disbursed, need to have good credibility and be reputable.

105 IESR's analysis

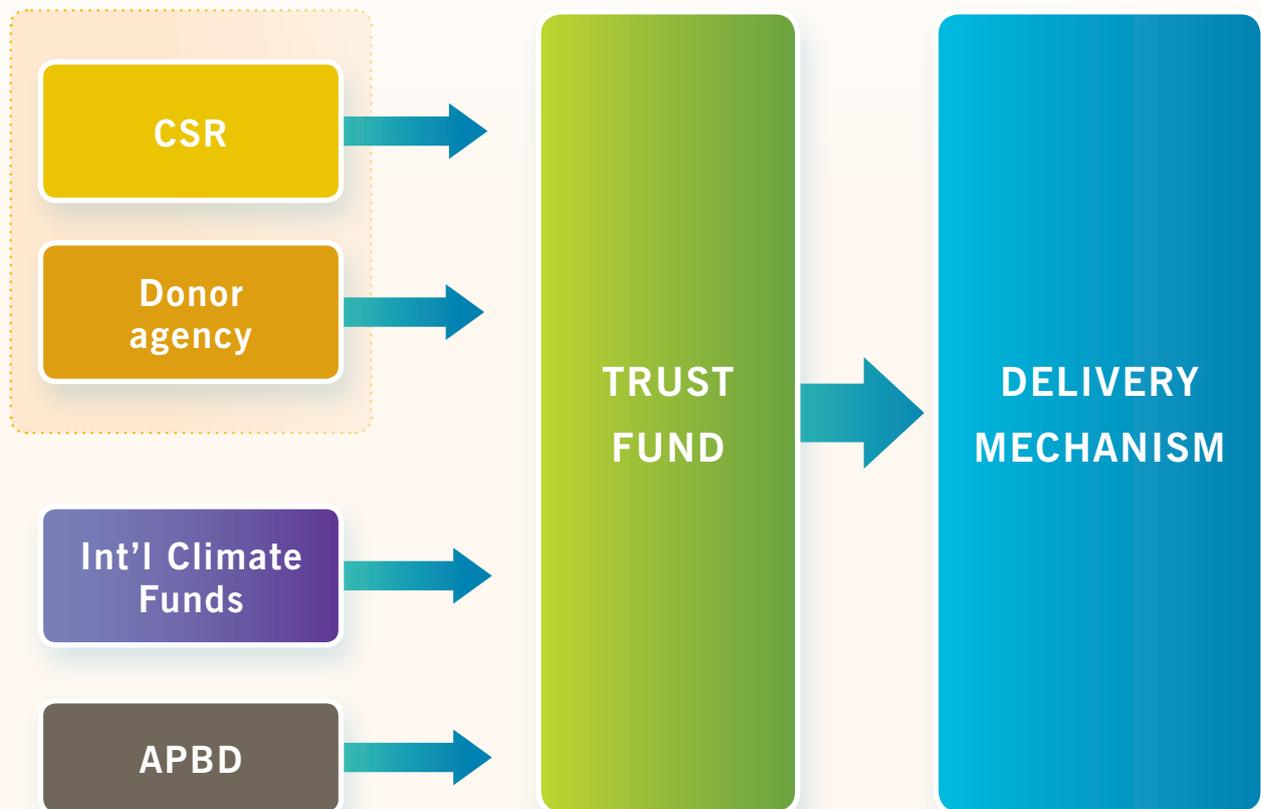


Figure 29 Scheme of the proposed local trust fund¹⁰⁵

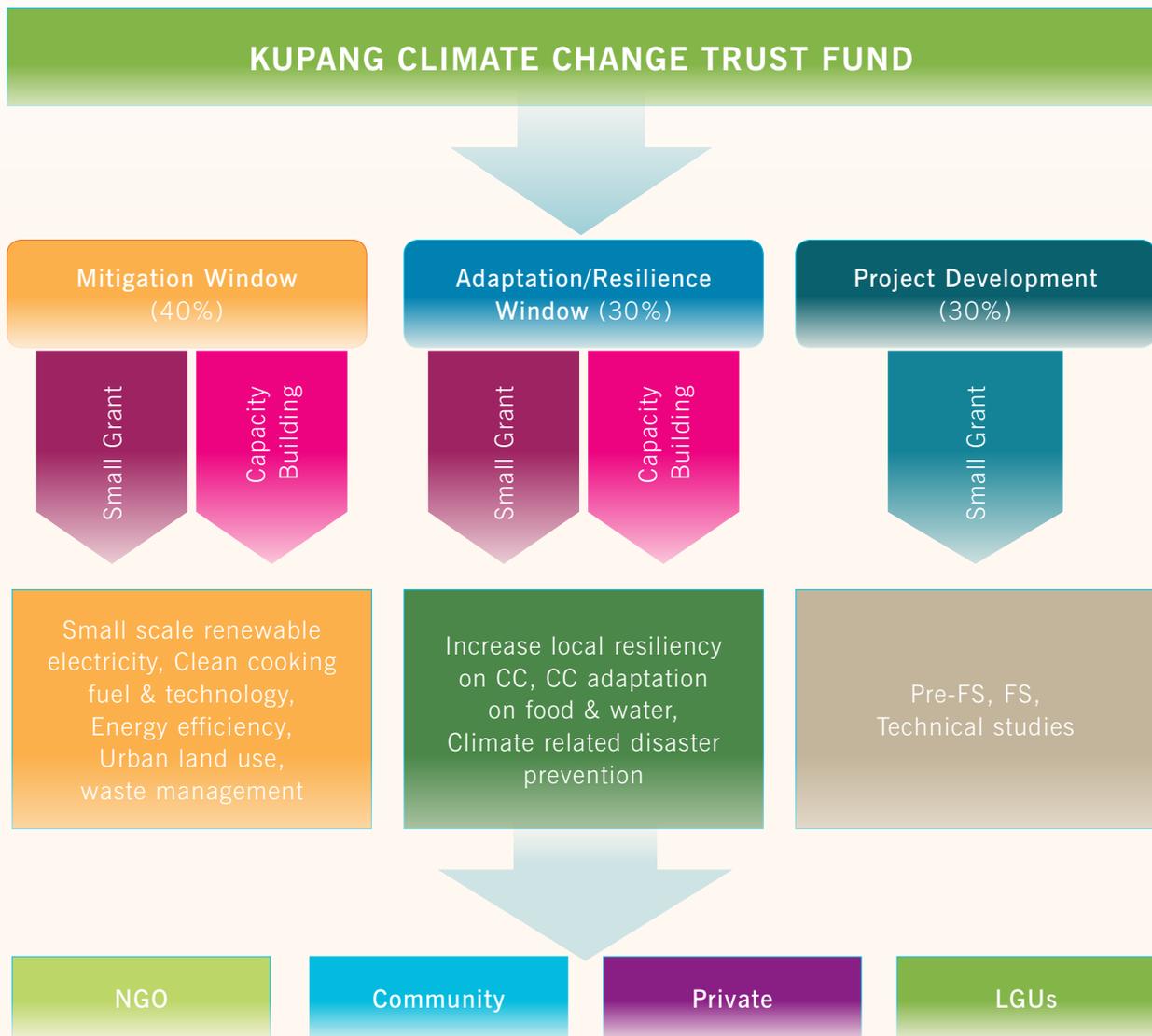


Figure 30 Kupang climate change trust fund, a proposed scheme¹⁰⁶

¹⁰⁶ Fabby Tumiwa. *Institutasi Pendanaan Aksi Perubahan Iklim Perkotaan*. Delivered at workshop on 'Diseminasi Hasil Studi Pendanaan Perubahan Iklim Kota Kupang' 11 May 2016 in Kupang.

Aside from providing funding, the trust fund can also provide technical assistance to local government or others developing feasibility studies for any climate projects and/or programmes usually needed by the local government. For instance, technical assistance to develop a suitable proposal for local government to access the specific purpose fund that is available through the related ministry. The technical assistance can also be in the form of developing a needs assessment of the city on climate change adaptation and mitigation measures to comply with climate compatible development. This component can be referred to as the project development windows.

107 Fabby Tumiwa. In-stitutsi Pendanaan Aksi Perubahan Iklim Perkotaan. Delivered at workshop on 'Diseminasi hasil studi pendanaan perubahan iklim kota Kupang' 11 May 2016 in Kupang.

The technical assistance facility that is proposed to be a part of the project development windows will provide required supporting information or research needed to propose a project. It allows more time for the government to design a project proposal to be submitted to the central government for funding.

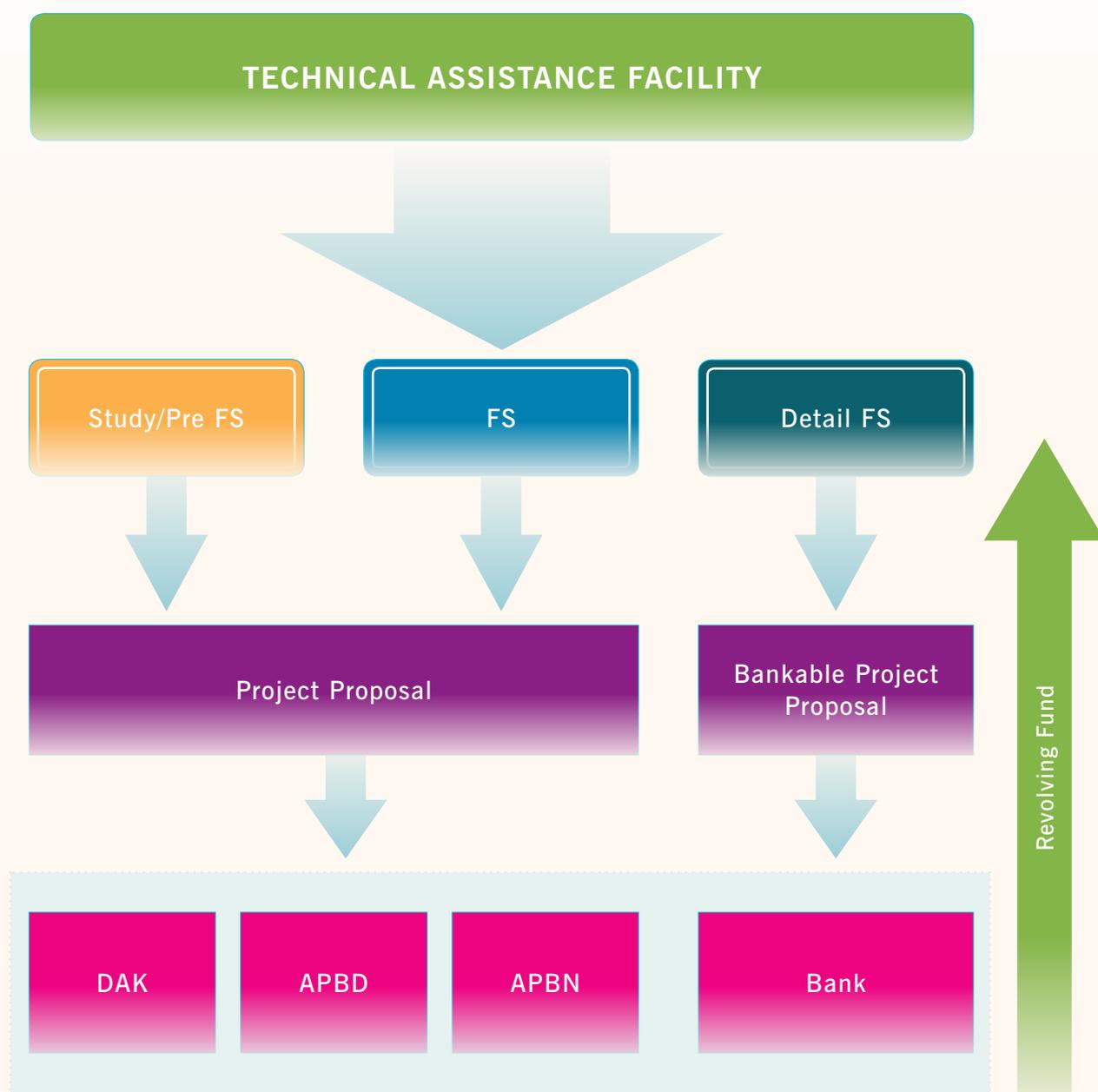


Figure 31 Proposed ways of work of the local trust fund¹⁰⁷

CONCLUSIONS AND RECOMMENDATIONS

7.1. CONCLUSIONS

There are several conclusions that can be drawn from this study:

- 1.** Apart from international sources, there are a variety of public and private sector funding sources available domestically through.
- 2.** Although the financial sources exist, there are no indicators available to ensure the adequacy and effectiveness of the funds. Therefore, a set of climate actions indicators is needed to monitor the adequacy and effectiveness of the funds.
- 3.** Currently, the transfer mechanism from the central to the local government will follow the programme that has been set by the local government, in accordance with the Government Work-Plan (Rencana Kerja Pemerintah, RKP), as well as their medium-term development plan (Rencana Pembangunan Jangka Menengah Daerah, RPJMD). Therefore, unless the local government develops their programs of priority in relation to climate change, including the non-physical needs such as enabling environment policies and capacities, no direct transfer from central to local government can be utilized. In the program of activities, developing a local vulnerability assessment, a feasibility study, and other enabling environment tools and/or instruments to support development planning and implementation must be included.

7.2. RECOMMENDATIONS

There are several recommendations that can be suggested through this study:

- 1.** Cities need to have their own climate action plans both for mitigation and adaptation, which are developed in accordance with scientific evidence. The action plan needs to have a legal status in order to be sustainably implemented. In developing the action plan, multi-stakeholder participation is required, thus effort-sharing among stakeholders can be applied to achieve a low carbon and resilient cities development plan.
- 2.** Establishment of a platform of information for cities on available funding and the means to access it, specifically on climate change.
- 3.** A local trust fund can be established to collect and manage the available funding, and to access the available international funds, thus ensuring the effectiveness of the fund. The local trust fund should have a multi-stakeholder committee to define, approve and perform the overseer function of the proposed climate action. Further advocacy work needs to be done to establish the local trust fund, which needs to engage local government, both at the municipal and provincial levels, as well as relevant private sector parties and civil society organizations. The advocacy work includes the legal status of the local trust fund, convening the steering committee of the fund, identifying financial resources, modalities of the fund, selecting the trustees of the fund, and developing the strategic plan and the work plan of the fund.
- 4.** Further scoping study work needs to be done to define the kinds of projects eligible to be funded by the local trust fund. This work shall feed into recommendation point (3) at the part of developing the modalities. Aside from the type of project, an early study on the legal status of the local trust fund should also be conducted.
- 5.** This study also affirms the need for detailed guidance on how to determine which activities are climate specific, especially in relation to adaptation. A single national system or database is essential to systematically collating comparable information from the full spectrum of actors, and to provide accessible guidelines.

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**Institute for Essential Services Reform
(IESR)**

Mampang Prapatan VIII.
Komplek Bappenas No R-13
Jakarta, 12790, Indonesia
Tel. +62-21-7992945
Fax +62-21-7996160
Facebook: IESR Indonesia
Twitter: @IESR
e-mail: iesr@iesr.or.id
website: www.iesr.or.id