

Balikpapan, Indonesia

Moving from analysis to action through low-emissions development planning

Participation in Urban-LEDS provided rapidly developing Balikpapan – known regionally as the ‘Oil City’ – the opportunity to ensure that development planning prioritizes activities that result in the reduction of greenhouse gas (GHG) emissions. Undertaking a GHG emissions analysis has provided a sound basis for a low emission development strategy which identifies achievable mitigation opportunities.

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Summary

Kota Balikpapan is a commercial center on the east coast of Kalimantan (Borneo) with an important role as a regional service hub for oil and mining industry. Through Urban-LEDS, Balikpapan aims to add value to its development plans by accessing national and provincial programs which support greenhouse gas (GHG) mitigation and adaptation.

The Urban-LEDS work in Balikpapan was coordinated by the municipal Environment Agency. The Environment Agency engaged with other city government departments and external agencies to collect the information required for a GHG emissions analysis. Through this process, many relevant stakeholders have been made more aware of the activities that result in GHG emissions, and the potential role that they as stakeholders can play in Balikpapan's low emission development.

This case study describes the process that Balikpapan used in conducting an initial emissions analysis, assessing mitigation options, and prioritizing opportunities.

Introduction: the importance of basing a low emissions strategy on an analysis of emission sources

As a long-standing center for extractive industry - particularly oil, gas, and mining - the Balikpapan city government is aware that the environmental impact of resource extraction presents an issue for the municipality. Prior to Urban-LEDS project, however, they had not previously analyzed GHG emissions from the area.

Kota Balikpapan chose to participate in Urban-LEDS in order to ensure that the City's urban development plans prioritized low emission development strategies. City leaders understood that the analysis of GHG emissions is a fundamental step to identifying sustainable low-carbon policies.

The management of Urban-LEDS in Balikpapan was designated to the municipal Environment Agency, Badan Lingkungan Hidup (BLH). BLH then coordinated the actions of other departments in the city government. By ensuring its future development plans are based on sound analysis, Balikpapan is proactively positioning itself to attract funding from national and provincial government budgets.



Facts & Figures

Population / Land area
704,380 (2014) / 503 km²

Municipal budget
USD 38.6 Million (2014)

Greenhouse gas inventory
Yes, since 2010

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Photo 1: Balikpapan City by night

Balikpapan: The Oil City

As the economic prosperity of the area is heavily tied to industry, Balikpapan recognizes that it faces challenges in addressing the potential environmental impacts of a high rate of economic growth. In addition to industrial emissions, the city faces increasing traffic congestion which is exacerbated by a lack of public transportation options.

Development in Balikpapan is occurring both along the coastline and in the hilly inland areas. Urban in-fill reflects a combination of commercial and high-density residential, and the city is also expanding into the agricultural areas of the surrounding hills. Additionally, a major coastal road from a new airport in the north of the city to the docks in the south of the city is being planned.

An intuitive process: Analyze, Act, and Accelerate

Through Presidential Regulation No. 61/2011 on the National Action Plan for GHG Emission Reduction (RAN-GRK), the Government of Indonesia has made a commitment to unilaterally reduce emissions to 26 percent below business-as-usual, or to 41 percent below business-as-usual with international assistance. This commitment is reflected in the development of a Local Action Plan for GHG Emissions Reduction (RAD-GRK) by each province in Indonesia. Going a step further, Kota Balikpapan is also developing a RAD-GRK for the city which will help implement the national and provincial plans.

When Kota Balikpapan elected to participate in Urban-LEDs, it identified a range of potential low-carbon initiatives that it was interested in pursuing. These were identified by the City administration as being consistent with strategic priorities and plans, but were not grounded in knowledge of local emission sources. Urban-LEDs provided the process, based on ICLEI's Green Climate Cities (GCC) methodology, by which the City could demonstrate that there was a logical, quantitative basis for it to pursue particular mitigation opportunities.

The GCC (Figure 1) guided Kota Balikpapan through a three-step process:

1. Analysis of emission sources and identification of key categories
2. Assessment of potential low-carbon initiatives through consultation with city staff
3. Identification of priority mitigation opportunities

Some measures towards existing long-term targets had already been implemented, and the BLH hosted three workshops for Urban-LEDs to ensure that the process was understood and all municipal departments were engaged.

The first workshop introduced Urban-LEDs to a broad range of City staff and explained the emissions analysis process. The second workshop, two months later, provided a progress update on the emissions analysis and was followed immediately by individual meetings with each relevant department. Department managers also arranged meetings with external agencies that had access to the required data. The third workshop utilized an assessment framework to prioritize mitigation opportunities.

In order to maximize the potential to attract funding for initiatives, Balikpapan wanted to demonstrate to both the national government and the provincial government of East Kalimantan that its analysis was consistent with the approach used by those governments. Thus, wherever possible, data sources and analysis methods used by Urban-LEDs were consistent with those used at national and provincial levels.

The assessment process used during discussions at the third workshop was adapted from the Urban-LEDs GCC methodology, along with the International Institute for Sustainable Development (Developing Financeable NAMAs: A Practitioner's Guide, 2013). It also used criteria adapted from the UNDP (How-to Guide: Low-emission Development Strategies and Nationally Appropriate Mitigation Actions: Eastern Europe and CIS, 2010) in order to enhance vertical integration.



Figure 1: The Green Climate Cities (GCC) methodology



Photo 2: A GHG emissions inventory workshop, held in Balikpapan on 27 June, 2014

The framework used to assess mitigation opportunities at the workshop used the following criteria:

- Mitigation potential
- Existence of supporting policy
- Readiness to implement
- Availability of funding
- Social impact
- Job creation
- Economic growth potential

Scores were allocated to these (unweighted) criteria following discussion amongst workshop participants.

The 'long list' of potential low-carbon initiatives nominated by Kota Balikpapan at the start of Urban-LEDS was assessed using this framework. Initiatives with the highest total scores formed a 'short list' that will be developed further to see if a project proposal is viable. Although the assessment framework was used to identify priority projects within each sector, those present at the workshop recognized that not all potential views were represented. The opinions of other senior managers and the community were also important in determining priorities, but they were not involved in the scoring of projects at the workshop. Therefore Kota Balikpapan BLH selected 'short list' projects on the understanding that other projects on the 'long list' would not be completely discarded from consideration in the future.

Project options in the residential sector, also a significant source of emissions (24.9 percent of total), may be included in future development plans.

Through Urban-LEDS, Balikpapan has gained specific knowledge about emission sources that will assist with the development of a RAD-GRK that is more relevant than would have otherwise been the case. In addition to the RAD-GRK, the Urban-LEDS process will help improve the implementation of the Long Term Development Plan (RPJP) 2005-2025 and the Medium Term Development Plan (RPJM) 2015-2019. Urban-LEDS will help the city define a pathway by which it can transition to a low emission economy.

Table 1: Potential low-carbon initiatives nominated by Kota Balikpapan at the start of Urban-LEDS

Emphasis of the project	Sector	Sector emissions (% of total)
Construction of mass transportation facilities Construction of pedestrian paths	Transportation	36.4%
Promotion of Green Buildings LED and solar public lighting	Commercial & Institutional	24.7%
Procurement of sludge removal vehicles Biogas utilisation from tofu industry waste	Waste water	3.5%
Landfill gas collection	Solid waste	5.8%

Budget and Financing

No additional funding has been required during this phase of Urban-LEDS. The city administration agreed that participation in Urban-LEDS was part of normal staff duties.

Results

The city was able to complete the emissions analysis efficiently because of good coordination between BLH, other municipal departments, and electricity and fuel providers.

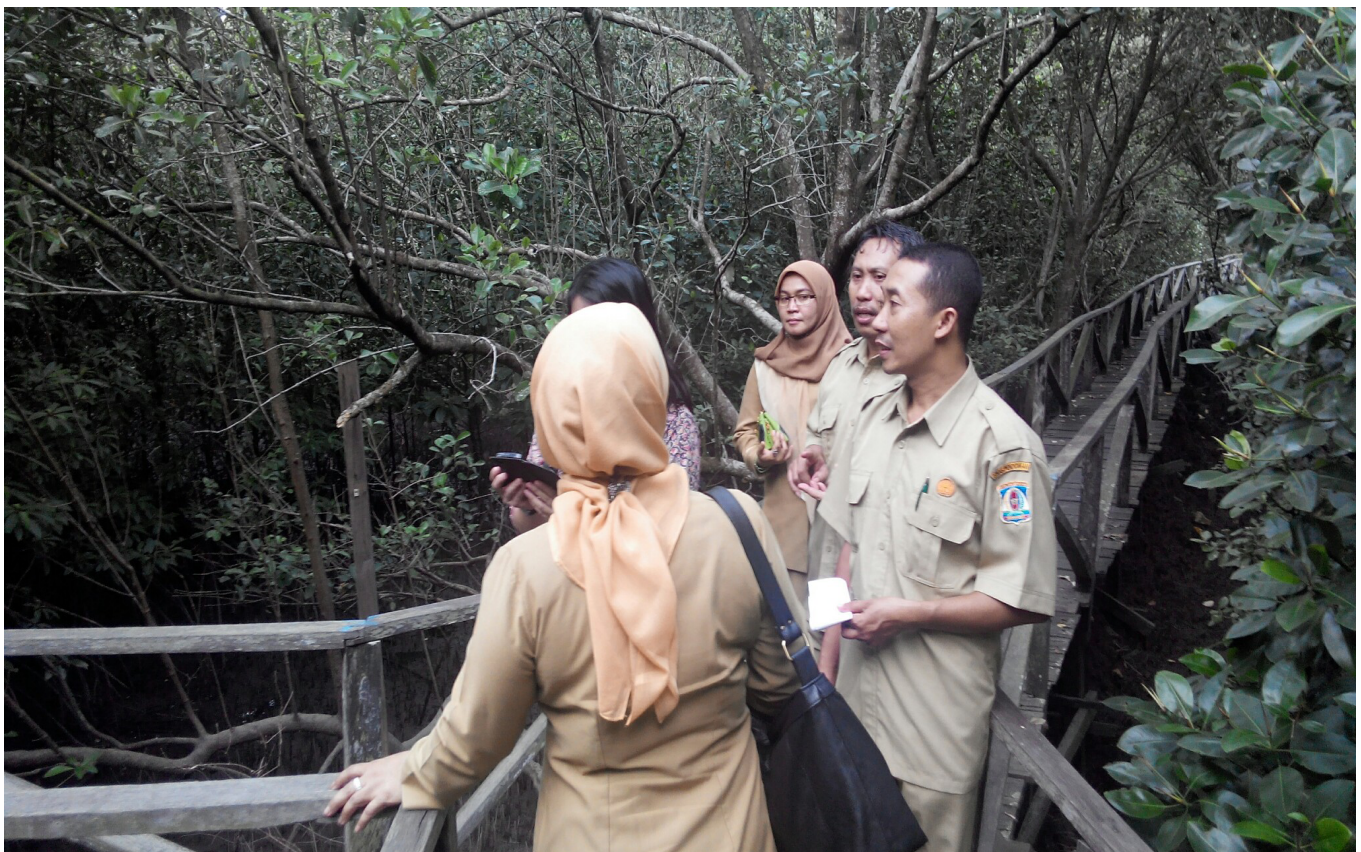
The first workshop held by the city for the emissions analysis process was chaired by the BLH department head and attended by senior managers from BLH and other departments. This provided a platform for BLH and Urban-LEDS staff to be able to meet with managers and staff from other departments to discuss in detail the data that was needed.

The second workshop briefly reviewed the data collated after the first workshop and discussed the remaining strategic gaps. It was followed by a series of meetings with each department, the electricity supplier Perusahaan Listrik Negara (PLN), and Pertamina, a regional supplier of liquid and gas fuels. These meetings were very effective as a format for discussing details that could not be discussed in a workshop with multiple departments present.

Although the initial emissions analysis did not reveal any surprising sources of emissions, it provided a quantitative basis for decision-making. Key emission categories were identified using the same approach used by the national government in the Second National Communication to the UNFCCC. These categories were then used to focus the assessment of potential mitigation opportunities at the third workshop.

The results of the emissions analysis and assessment process have provided a sound basis for future Urban-LEDS work. The City will be able to demonstrate to potential funders that it is a suitable location for selected mitigation measures. The analysis will continue to be improved in the future as the work is incorporated into City development plans such as the RAD-GRK and RPJM.

Photo 3: A mangrove forest inspection underway in Balikpapan



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Lessons Learned

- The emissions analysis process can be fast-tracked if there is good cooperation between government departments. This requires the support of the Mayor, to ensure that all senior management makes capacity available to help collect all required information. This also means taking time to explain what information is needed and why, so that the person you are asking can understand exactly what you want.
- It is very useful to have a good relationship with regional energy suppliers. Companies that sell electricity and fuels will have databases that are immensely helpful for emissions analysis, but this may be information that they do not want to reveal. They need to understand why you want the information and how it will be used. A request for data should come from a senior manager or elected official to ensure that the request is given the attention it requires.
- The assessment of mitigation opportunities should be conducted by a complementary range of government departments. It is important that the assessment process takes into consideration the views of various staff that have experience with particular criteria, even if the final score is the responsibility of a senior manager.

Replication

The processes used by Balikpapan are relevant to other local governments in Indonesia. The effectiveness of BLH in getting the cooperation of other city government departments and energy suppliers by involving the Mayor and senior managers in the early stages of Urban-LEDs should be emulated wherever possible. The process of emissions analysis followed by the assessment of mitigation opportunities can be followed by other Indonesian city governments wanting to include low carbon options in their development planning.

Further Reading

<http://urbanleds.iclei.org/index.php?id=187>

<http://seas.iclei.org/logos/logos-i-3/indonesian-leds-cities-build-greenhouse-gas-inventories.html>



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They represent solely the views of the authors and cannot in any circumstances be regarded as the official position of the European Union.

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