Global Green Growth Institute

# Mainstreaming Green Growth Assessment Tools In Economic & Development Planning

## The Role of Extended Cost Benefit Analysis in Shaping Public & Private Investment

# Foreword

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***Secretary of Coordinating Ministry for Economic Affairs***

Sustainable development is an important guiding principle in our economic development. We need to find a way to grow the economy in a way that achieves the three pillars of sustainable development: human development, economic progress and environmental protection. In other words, we need to enter the path of green growth in order to meet our domestic *Nawa Cita* priorities and contribute to the global Sustainable Development Goals (SDGs) as well as the recent climate agreement at the UNFCCC COP21 in Paris.

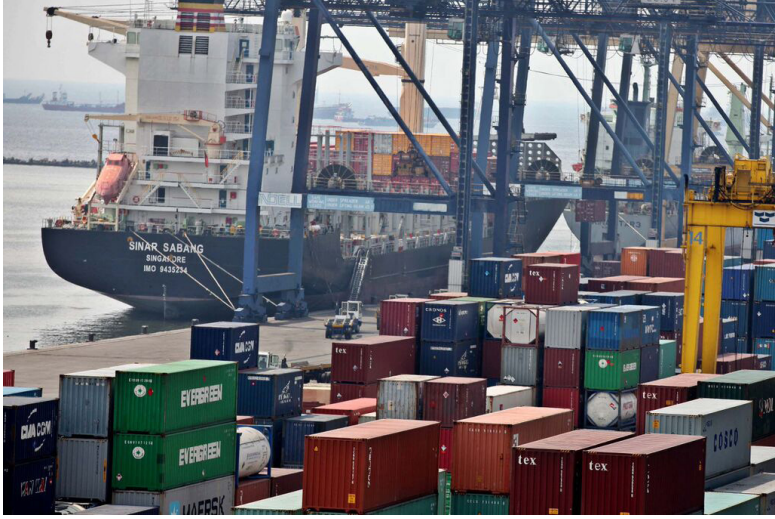
Green growth objectives need to be adopted in key sectors of our economy. In the energy sector, we have already started to phase out fuel subsidies and are diversifying to include clean and renewable energy in the energy mix. In our efforts to improve connectivity, we need to increase the number of green infrastructure projects, especially in the maritime sector and urban mass transportation. In the forest and land use sector, we need to improve spatial planning, best sustainable harvest practices, and law enforcement to guide land use activities.

Since 2013 the Government of Indonesia - GGGI Green Growth Program has engaged stakeholders to develop a systematic framework to integrate green growth objectives into economic planning in Indonesia. Through the Program, in collaboration with the Coordinating Ministry of Economic Affairs, the Green Growth Assessment Process (GGAP) and extended Cost Benefit Analysis (eCBA) were developed as analytical tools, to provide a qualitative and quantitative analysis of the economic, social and environmental impacts of projects. When applying these tools, national and subnational government as well as investors will have a better understanding of, not only the costs, but also the benefits associated with green growth-oriented policy and technological interventions.



This policy booklet provides recommendations to integrate green growth assessment tools into Indonesia's existing economic and environmental planning and regulatory processes. I hope it will be useful to policymakers, investors and the wider public when planning and shaping investment projects in Indonesia.

To minimize and avoid social and environmental impacts, I encourage all investment projects to systematically apply green and efficient technologies as well as best practices, in order to optimize the broader environmental and social benefits to the people of Indonesia and the global community. These tools will help us move in this direction.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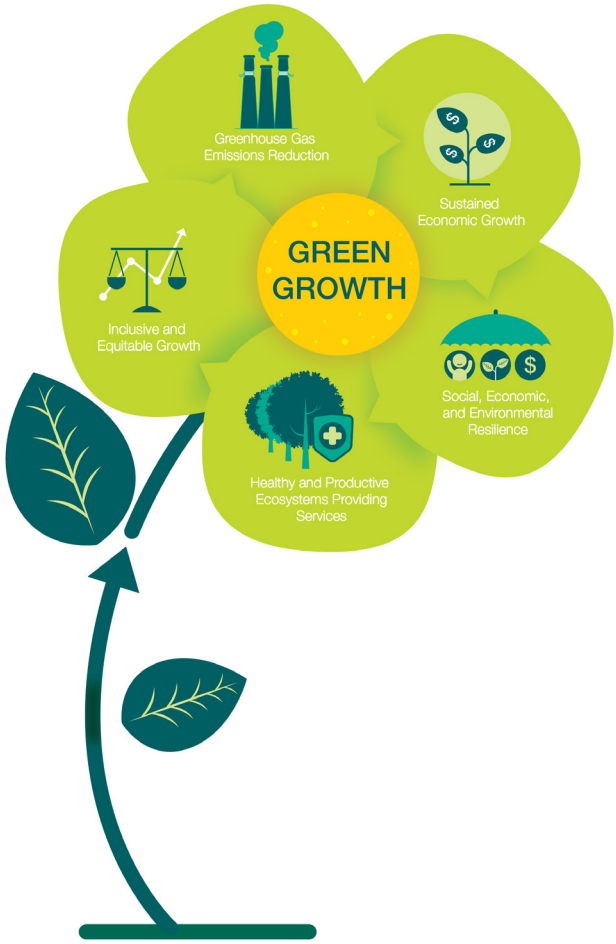
# Introduction

A fundamental objective of the joint Program is mainstreaming green growth within Indonesia's economic planning and development processes.

To this end, the Green Growth Program is developing a framework and toolkit that can be used by a variety of government agencies, especially those involved in planning and economic activities, including investment appraisals. This framework, developed with stakeholders in 2013 and 2014, aims to make green growth measurable in terms of five desired outcomes, using a series of national, regional and project-level indicators.

FIVE DESIRED OUTCOMES OF GREEN GROWTH




- The Green Growth Assessment Process (GGAP) provides a systematic approach to improve green growth outcomes of wider policies and investment plans.
- The extended Cost Benefit Analysis (eCBA) is a quantitative tool that provides monetary values of net benefits associated with green growth policy interventions to improve existing or shaping whole new capital and infrastructure projects.
- Government of Indonesia and GGGI have applied eCBA in several projects to show that this tool can play an important role in the existing regulatory and planning framework for environmental impact assessment.
- On the macro policy level, the eCBA can play a role in evaluating baseline and identifying alternative scenarios in the Strategic Environmental Assessment (SEA) process by using the impact pathway framework
- On the project level, integrating eCBA into the Environmental Impact Assessment (EIA) process would make the AMDAL process more rigorous, as it includes economic valuation.
- Lastly, eCBA could be a viable tool to complement the project planning process required for investment using the Public-Private-Partnership (PPP) mechanism.

# How can we re-design a project to improve its green growth performance?

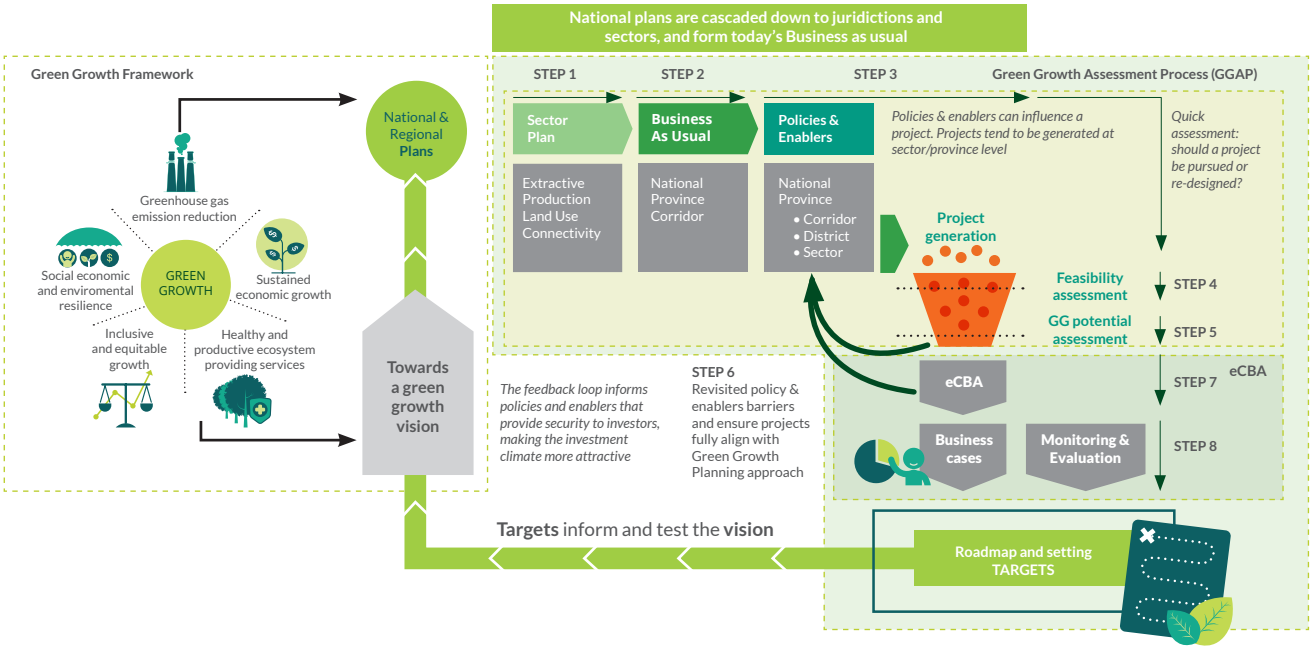
Green growth assessment tools, including extended Cost Benefit Analysis (eCBA) are tools developed to measure and compare the green growth performance of investments. Extensive stakeholder consultation has been done to support measurement.

The toolkit can be used at a high level to prioritise projects with high green growth potential, or those that would benefit from a green growth re-design. At a more detailed level, the toolkit can be used for assessments at the site level using economically rigorous tools such as eCBA drawing on project level indicators.

Green growth assessment tools play a central role in mainstreaming green growth into development planning, by promoting:

- **Consistency between vision and implementation, between plans and projects:** Although project development is driven by an overarching national development policy, projects tend to be generated at sector and/or provincial levels. Therefore, gaps can appear between overall strategic objectives and project development. It is therefore critically important to assess projects' contribution and performance against green growth indicators in order to identify gaps and eventually re-design such projects.
- **Optimization of resource allocation through project prioritisation:** Green growth assessment tools assess the total economic value of specific projects, their performance against specific green growth indicators. Assessment across a large pool of potential projects will allow to compare such performance and eventually to prioritise resource allocation towards projects delivering the highest green growth performance.
- **Feedback and continuous policy improvement:** eCBAs aim to develop business cases for green investment. eCBAs will therefore provide valuable feedback on policies and enablers that will allow turning green intervention alternatives into bankable projects. eCBAs will create valuable insight on removing bottlenecks in the policy making process and on required incentive schemes, which will contribute to continuous improvement of sectoral policies.





# Using eCBA to shape public and private investment

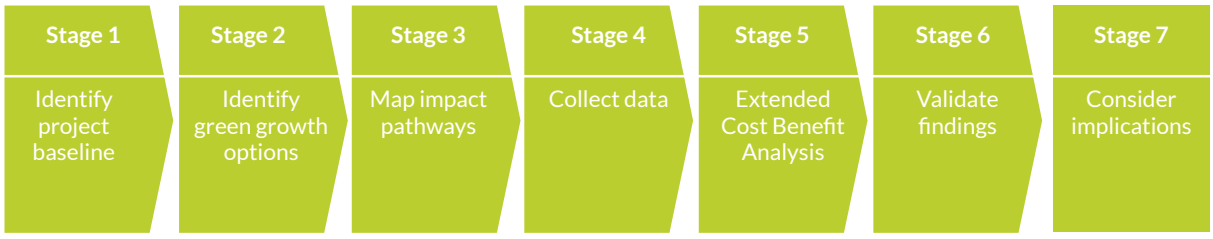
The key purpose of the eCBA is to enable the design or redesign of individual projects to better achieve the desired green growth outcomes. The tool can also be used to draw policy recommendations to meet the five desired outcomes described above.

Ultimately, projects with strong green growth outcomes contribute to the priorities set by the government's Nawa Cita program as well as the Sustainable Development Goals (SDGs).

| PUBLIC POLICY RATIONALE | INVESTMENT RATIONALE |
|---|---|
| As a **justification** for change in public policy | To allocate resources to the projects or policies with the highest green growth performance |
| As a tool for **quantification** of existing or proposed policy incentives | To re-design and optimize publicly-funded and private projects |
| As a tool for **prioritization** of green growth policies | To inform policy on barriers and enablers of green growth |
| As a **validation** mechanism before policies are enacted and implemented | To build a business case for projects with green growth benefits in order to develop bankable projects and attract private investment |



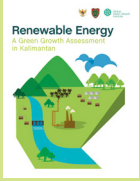
### The seven steps of implementing an extended cost benefit analysis




| | | | | | | |
|---|---|---|---|---|---|---|
| Consult project stakeholders<br><br>Review project documentation | Consult project stakeholders<br><br>Literature review | Identify outputs, outcomes and impacts<br><br>Assess materiality, identify scope for eCBA | Collect data from project documentation, local market, and international technology | Quantify costs and benefits of green growth interventions<br><br>Value cost and benefits to society | Validate findings with stakeholders | Consider implications of results for policy<br><br>Consider implications for project re-design and investment |

◆ The eCBA technique can be used for a specific investment proposal as well as for broader analyses. ◆ The term "project-level eCBA" is used when applying eCBA to individual projects and investments. ◆ A project-level eCBA is flexible in scope and can encompass different geographies and timeframes depending on project size.
◆ It can also be applied across different sectors by different users.

**OVERVIEW OF PROJECT-LEVEL eCBA CASE STUDIES UNDERTAKEN THROUGH THE GREEN GROWTH PROGRAM**

| eCBA Studies | | Benefits (NPV) | Policy barriers and enablers: examples | |
|---|---|---|---|---|
| | | | Regulatory Issue | Fiscal and financial incentives |
| **KIPI Maloy**   | Natural resource processing industries<br><br>Infrastructure: energy, road, transport, port | USD 3.8 Billion or 10% of regional GDP | ◆ Reform of energy pricing system and feed-in tariff<br><br>◆ Clarification of palm oil certification process and legal status | ◆ Reform of energy pricing system and feed-in tariff<br><br>◆ Clarification of palm oil certification process and legal status |
| **KSN Mamminasata**   | Fishery<br><br>Reforestration/ Clean Water<br><br>Waste Management<br><br>Renewable Energy | USD 335 Million or 6% of regional GDP | ◆ Clearer regulation in waste management Matching spatial and land use plans | ◆ Ecosystem services levies<br><br>◆ Subsidy for waste reduction<br><br>◆ Tax relief for investment in waste to energy equipment |
| **ERC Project Katingan**   | Ecosystem Restoration and Conservation | USD 9.9 Billion | ◆ Streamlining and improving transparency of ERC licencing<br><br>◆ Clear spatial plan under One Map initiative | ◆ Support of stable national carbon price<br><br>◆ Fiscal incentives for local government to support ERC |
| **Renewable Energy Options in Kalimantan**   | Assessing four individual renewable energy projects | USD 1-9 billion or 3-16% of regional GDP (benefits of projects scaled up to Kalimantan corridor) | ◆ Transparency in grid expansion plans<br><br>◆ Reform of energy pricing system and feed-in tariff | ◆ Debt guarantee and capital grants to renewable energy developers<br><br>◆ Capacity building for project design expertice |

# Three ways of integrating eCBA into investment planning regulations

The current regulatory framework for environmental and investment planning provides three entry points for the eCBA method.

First, Strategic Environmental Assessment (SEA) focuses on a higher level policy decision process. Second, Environmental Impact Assessment (EIA) is focused on project level decisions. Both EIA and SEA are widely accepted impact assessment tools, providing valuable input for development planning and decision-making.

In Indonesia, both EIA and SEA have been regulated and a clear scope and detailed guidelines have been developed.

A third entry point is the inclusion of eCBA into the Public Private Partnership (PPP) framework. The current PPP framework mandates project developers to undertake a social cost benefit analysis of projects in order to be eligible for government funding support. However, no exact criteria exist on how to conduct a social CBA, which could provide an entry point for eCBA to be included in the future.



**Integration of eCBA into existing investment planning regulations**

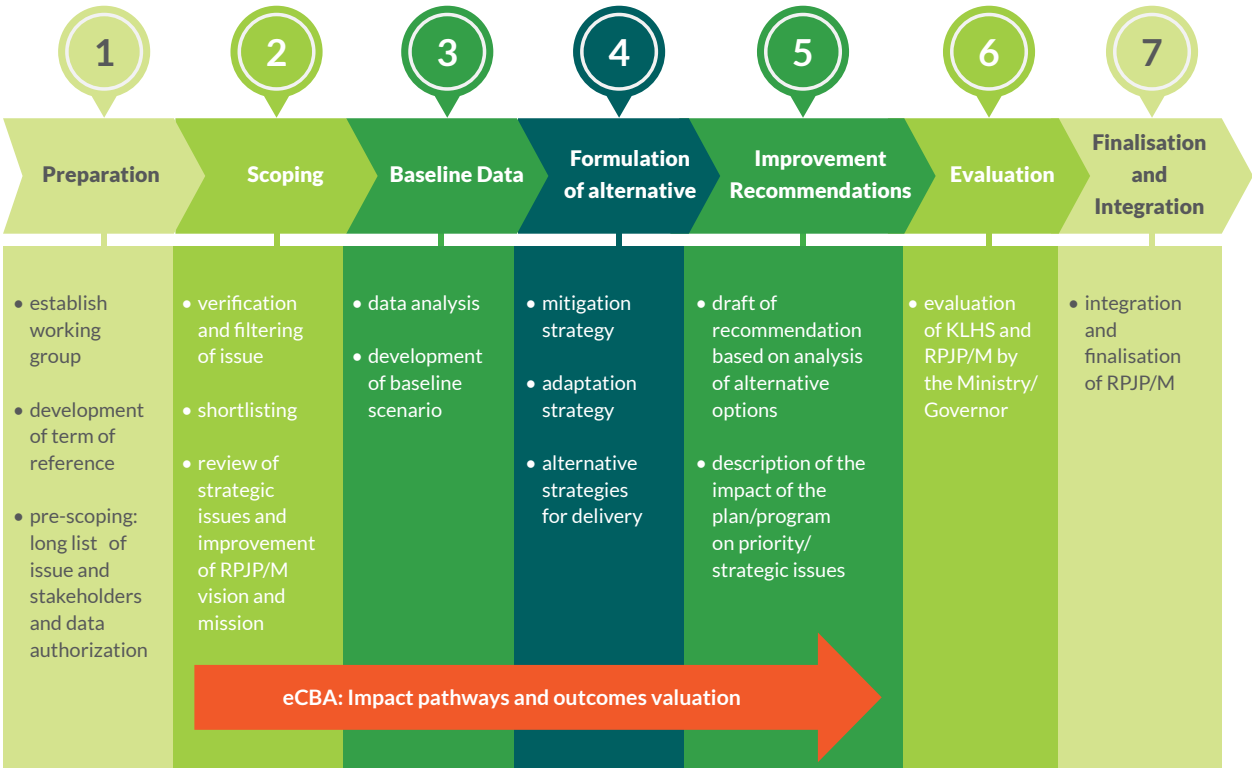
| TOOLS AND SCOPE | LEGAL BASIS |
|---|---|
| **Strategic Environment Assessment (SEA)**<br>• Policy, regulations, programmes, and plans<br>• Environmental, social economic, public health impact | • Law No. 32 of 2009 on Environmental Protection and Management<br>• Ministry of Environment regulation no. 9 of 2011 on general guidelines for SEA implementation<br>• Ministry of Environment Regulation no 27 of 2012 on Environmental Licenses<br>• Ministry of Home Affairs regulation No. 67 of 2012 on guidelines for the implementation of Strategic Environmental Assessment (SEA) in the development or evaluation of Regional Development plans |
| **Environmental Impact Assessment (EIA/AMDAL)**<br>• Physical projects<br>• Environmental, social, economic, public health impacts | • Law No. 32 of 2009 on Environmental Protection and Management<br>• Government Regulation No. 27 of 2012 on Environmental Licenses<br>• Ministry of Environment Regulation no. 16 of 2012 on Guidelines for Environmental Document Development<br>• Ministry of Environment Regulation no. 8 of 2013 on Appraisal and Examination of Environmental Documents and Environmental License Granting<br>• Ministry of Environment Regulation no. 17 of 2012 on Guidance of Community Involvement in Environmental Impact Analysis and Environmental Licensing Process<br>• Ministry of Environment Regulation no. 05 of 2012 on Types of Businesses and/or Activities That Require Environmental Impact Analysis |
| **Public Private Partnership (PPP)**<br>• Selecting projects eligible for funding support | • Ministry of Finance Regulation No. 223 of 2012 on Viability Gap Fund for Public Private Infrastructure Projects |

# SEA and eCBA: Integration of eCBA into an extended SEA methodology

Law 32/2009 provides a comprehensive assessment framework to ensure effective mainstreaming and realization into development planning. An article 15 of the law introduces the obligation for national and local governments to undertake Strategic Environmental Assessment (KLHS) to "ensure that sustainable development principles are integrated into policy and development planning".

SEA is not a one-time assessment, but rather a process aiming at:

- Assessing the impact of policy, plans, and programs on the environment
- Developing alternative scenarios and improving targeted policy, plans, and programs
- Providing clear recommendations for the improvement of the considered policy, plans, and programs




The SEA process follows the same logical framework as the eCBA, starting from scoping of issues, development of a baseline scenario, alternative scenarios, and development of recommendations for improved green growth performance.

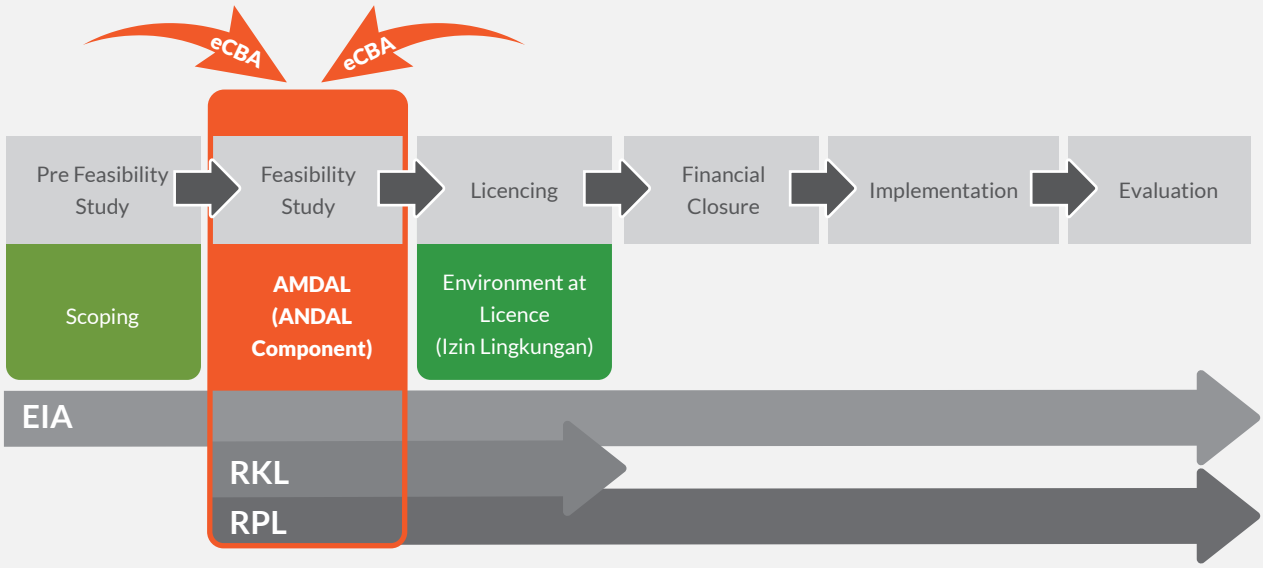
Integration of eCBA methodology in the SEA process would allow the strengthening of the whole process with the integration of impact pathway methods to identify alternative scenario and map outcomes.

The eCBA methodology would also provide more robust input for decision making by introducing economic valuation in the discussion of recommendations, therefore easing the decision-making process.

# EIA and eCBA: Integration of eCBA into an extended environmental impact assessment methodology

The Law 32/2009 defines EIA (or AMDAL) as an integrated and holistic environmental tool used to identify, anticipate, and mitigate environmental risks associated with specific projects, and leading to the development of Environmental Management and Monitoring plans.

**Overview of EIA integration in the project cycle**

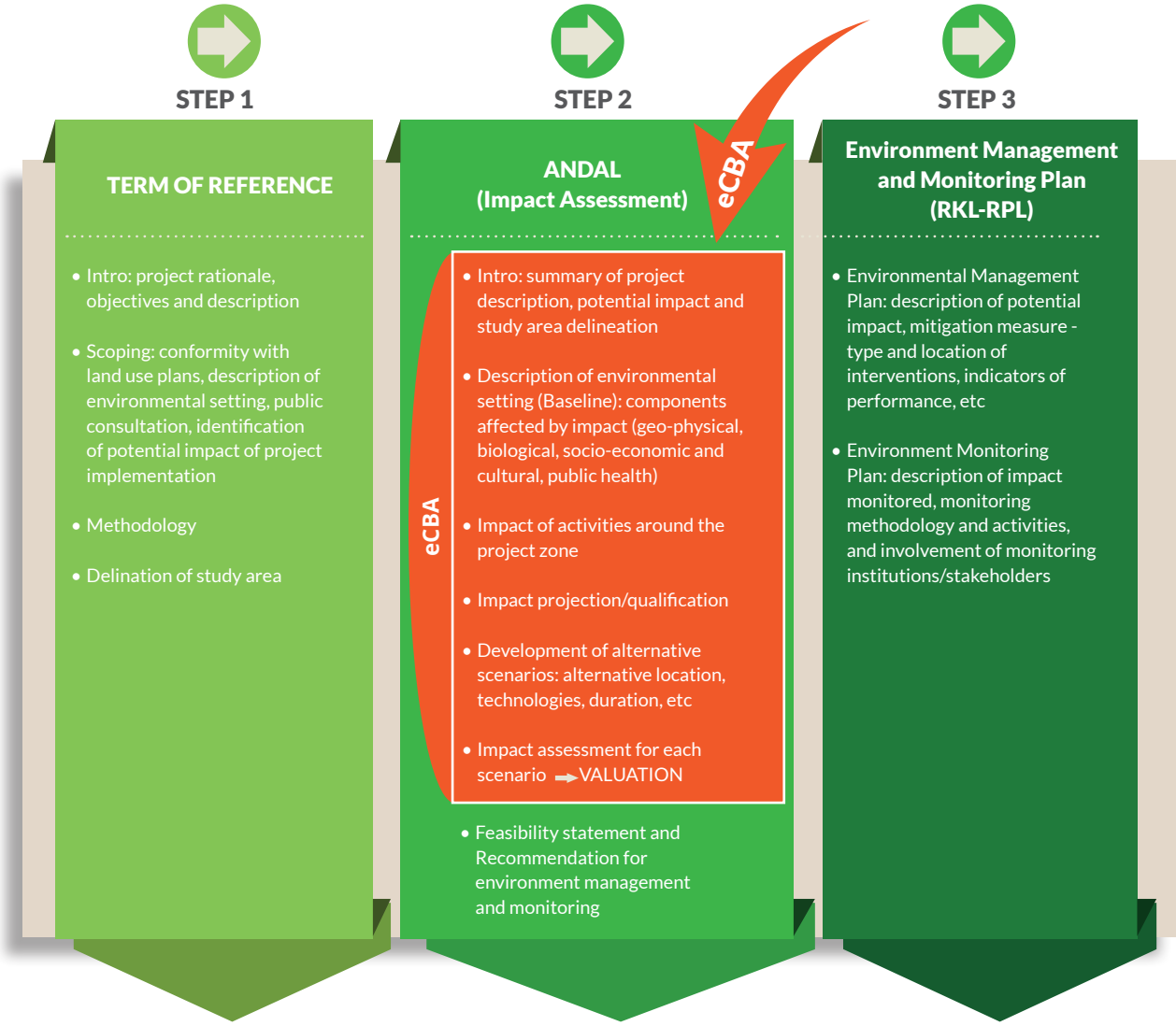





The EIA is used to determine the environmental feasibility and consequent attribution of environmental licenses, and is therefore a powerful, binding environmental assessment tool. Continuity and consistency with spatial planning and SEA is guaranteed by article 4 of the implementing regulation PP 27/2012.

There is a high level of overlap between the scope of the eCBA and the scope of the Impact Assessment component of the AMDAL (the ANDAL). Like the eCBA, the ANDAL aims to define a clear baseline scenario, identify and quantify impacts, to develop and assess alternative scenarios, and ultimately provide recommendations for improving the Green Growth performance of the project. However, the difference is that the eCBA analysis in the AMDAL is not a quantitative one.

## Overview of EIA (AMDAL) Methodology and Process




Integration of eCBA methodology in the EIA process would strengthen the ANDAL process with the integration of economic valuation in impact assessment and assessment of alternative scenarios' costs and benefits.

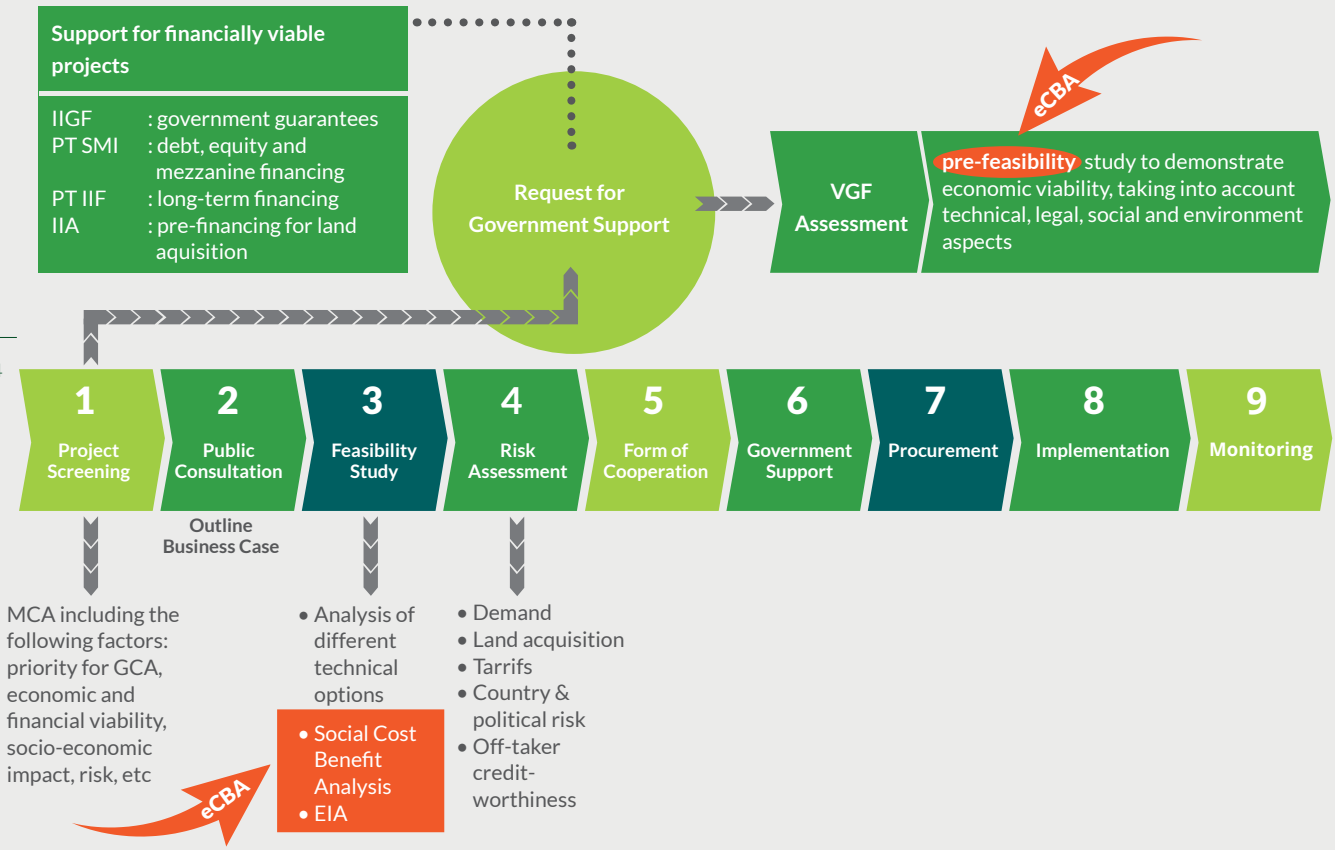
The utilization of the eCBA methodology would allow to first facilitate the assessment of the different alternative scenarios, and then to value the total economic costs and benefits of implementing the Environmental Management and Monitoring Plan, making decision making for project initiators and policy makers more transparent and efficient.

Therefore eCBA integration into the EIA would allow to go a step further and promote greater integration of economic instruments to support environmental management plans, as stated in article 42 of the Environmental Protection and Management Act.

# Integration of eCBA into Public Private Partnership (PPP) planning

In order to accelerate infrastructure development, the Government of Indonesia has made considerable progress in developing PPP policy framework. The current regulatory framework outlines the PPP development process, and in particular impact assessment processes and methodologies.

**Overview of the PPP project development process & impact assessment process**




As illustrated in the figure, feasibility studies are required to include an analysis of potential environmental and social impacts. Social Cost Benefit Analysis is particularly important in the context of PPPs, as it will allow to better assess the total economic value of infrastructure projects in order to justify government support using the Viability Gap Fund (VGF), through incentives, guarantees, or financing.

The existing PPP regulatory framework does not provide detailed guidelines for Social Cost Benefit Analysis. Government agencies entering PPP -based projects, are mandated to assess prospective PPP projects based on such analyses. Thus, the standardization of feasibility studies and SCBA would contribute to improve and facilitate project assessment and prioritization. The eCBA methodology would provide a strong foundation for such standardization.

# GoI – GGGI Green Growth Program

Government of Indonesia and Global Green Growth Institute (GGGI) have developed a program of activity that is aligned and wholly supportive of achieving Indonesia's existing vision for economic development planning.

The aim is to show, using real examples of Indonesia's development and investment plans at national, provincial and district levels, how economic growth can be maintained while reducing poverty and social inequality, maximizing the value of ecosystem services, reducing GHG emissions, and making communities, economies, and the environment resilient to economic and climate shocks.

**The joint GoI and GGGI goal is:**

"To promote green growth in Indonesia that recognizes the value of natural capital, improves resilience, builds local economies and is inclusive and equitable".

**The specific objectives to achieve this goal are:**

- To ensure the green growth vision matches or exceeds existing development targets;
- To track the green growth priorities of Indonesia by providing relevant targets and indicators;
- To evaluate the implications of the country's current development path against green growth targets and indicators and assessing projects and potential policy and investment interventions against this baseline;
- To identify the key sectors and high green growth potential projects and investment interventions that will help deliver green growth development;
- To harness private sector engagement and investment in support of delivering green growth opportunities in Indonesia;
- To undertake economic modeling to analyze each project showing their financial returns and identifying any gaps in the incremental spend required to secure green projects

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