



| Webinar

Developing Mini-grids to
IFC Environmental & Social
Performance Standards

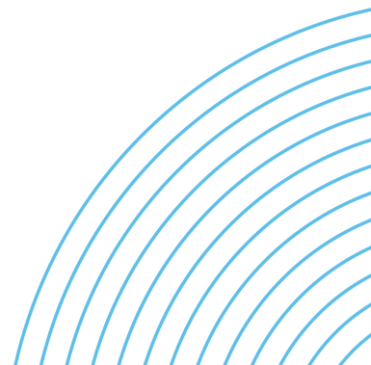
Session 1

3 December 2018

Agenda

- 1 Welcome and introduction to AMDA
- 2 Introduction to REPP
- 3 Overview of IFC Performance Standards
- 4 Key Impacts of Minigrids
- 5 Establishing E&S Management systems
- 6 Questions & Answers

African Mini-Grid Developers Association



REPP

Renewable Energy Performance Platform

Objectives

Mobilise private sector investment in renewable energy in Sub-Saharan Africa.

Addressing early-stage barriers to project development.

Focus on small to medium-sized renewable energy projects (on and off grid).

REPP Products

Development assistance funding, technical and financial advisory.

Facilitating access to risk mitigation instruments and finance provided by REPP partners.

Gap financing (e.g. bridge construction finance).

REPP is managed by Camco Clean Energy



Supporting the growth of Africa's renewable energy sector



194 MW

Total planned capacity

3.5m

People with improved or first time access to energy



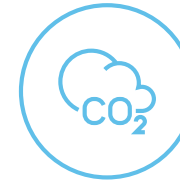
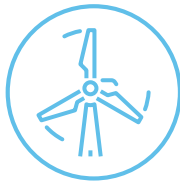
16

Contracted projects



7

Technologies employed



>6.7m

tCO2e

Avoided over project lifespan

US\$13.1m

Committed capital from REPP



22

Projects in advanced proposal phases



 **REPP**





Overview of IFC Performance Standards

Laura Lahti
Impact Manager
Camco Clean Energy

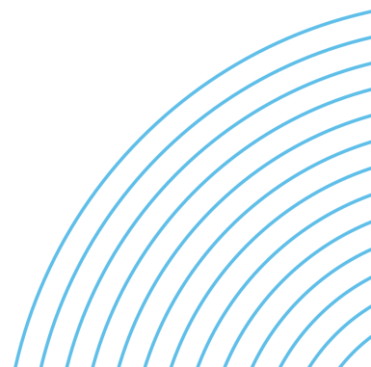
Why IFC is Required?

The **IFC Performance Standards** (PS) helps to improve the **environmental and social performance** of a project through an outcomes-based approach.

It also provides a solid foundation from which project developers may increase the sustainability and productivity of their operation.

IFC Performance Standards **provide international benchmark** for identifying and managing environmental and social risk.

REPP, among other Development Financing Institutions and investors, require IFC PS compliance from project developers receiving funding to guarantee environmental and social integrity of the projects.



Overview of the IFC Standards



Overview of the supporting materials

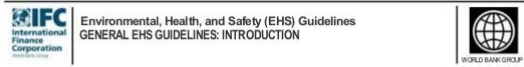
Guidance Notes



International Finance Corporation's Guidance Notes: Performance Standards on Environmental and Social Sustainability

January 1, 2012

EHS Guidelines



Environmental, Health, and Safety General Guidelines

Introduction

The Environmental, Health, and Safety (EHS) Guidelines are technical reference documents with general and industry-specific examples of Good International Practice (GIP)¹. When one or more members of the World Bank Group are involved in a project, these EHS Guidelines are applied as required by their respective policies and standards. These **General EHS Guidelines** are designed to be used together with the relevant **Industry Sector EHS Guidelines** which provide guidance to users on EHS issues in specific industry sectors. For complex projects, use of multiple industry-sector guidelines may be necessary. A complete list of industry-sector guidelines can be found at: www.ifc.org/faq/Enviro.nsf/Content/EnvironmentalGuidelines

The EHS Guidelines contain the performance levels and measures that are generally considered to be achievable in new facilities by existing technology at reasonable costs. Application of the EHS Guidelines to existing facilities may involve the establishment of site-specific targets, with an appropriate timetable for achieving them. The applicability of the EHS Guidelines should be tailored to the hazards and risks established for each project on the basis of the results of an environmental assessment² in which site-specific variables, such as host country context, assimilative capacity of the environment, and other project factors, are taken into account. The applicability of specific technical recommendations should be

¹ Defined as the exercise of professional skill, diligence, prudence and foresight that would be reasonably expected from skilled and experienced professionals engaged in the same type of undertaking under the same or similar circumstances globally. The circumstances that skilled and experienced professionals may find when evaluating the range of pollution prevention and control techniques available to a project may include, but are not limited to, varying levels of environmental legislation and environmental standards, especially as well as varying levels of financial and technical feasibility.

² For IFC, such assessment is carried out consistent with Performance Standard 1, and for the World Bank, with Operational Policy 4.01.

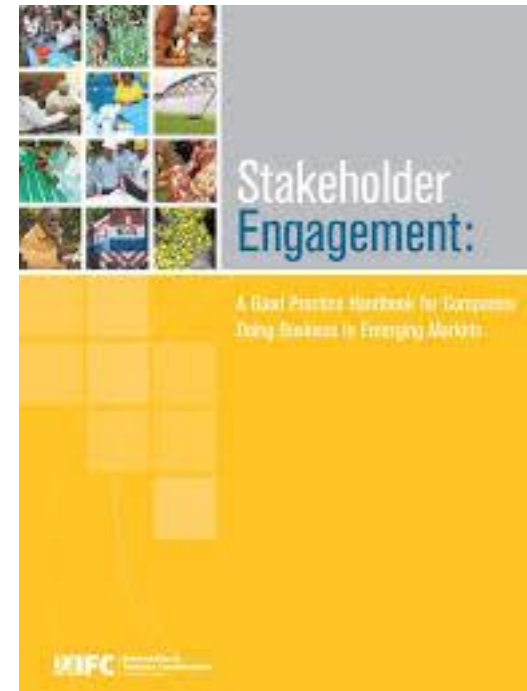
APRIL 30, 2007

based on the professional opinion of qualified and experienced persons. When host country regulations differ from the levels and measures presented in the EHS Guidelines, projects are expected to achieve whichever is more stringent, if less stringent levels or measures than those provided in these EHS Guidelines are appropriate, in view of specific project circumstances, a full and detailed justification for any proposed alternatives is needed as part of the site-specific environmental assessment. This justification should demonstrate that the choice for any alternate performance levels is protective of human health and the environment.

The **General EHS Guidelines** are organized as follows:

1. Environmental	3
1.1 Air Emissions and Ambient Air Quality	3
1.2 Energy Conservation	17
1.3 Wastewater and Ambient Water Quality	24
1.4 Water Conservation	32
1.5 Hazardous Materials Management	35
1.6 Waste Management	45
1.7 Noise	51
1.8 Contaminated Land	53
2. Occupational Health and Safety	59
2.1 General Facility Design and Operation	60
2.2 Communication and Training	62
2.3 Physical Hazards	64
2.4 Chemical Hazards	68
2.5 Biological Hazards	70
2.6 Radiological Hazards	72
2.7 Personal Protective Equipment (PPE)	72
2.8 Special Hazard Environments	73
2.9 Monitoring	74
3. Community Health and Safety	77
3.1 Water Quality and Availability	77
3.2 Structural Safety of Project Infrastructure	78
3.3 Life and Fire Safety (LAFS)	79
3.4 Traffic Safety	82
3.5 Transport of Hazardous Materials	82
3.6 Disease Prevention	85
3.7 Emergency Preparedness and Response	86
4. Construction and Decommissioning	89
4.1 Environment	92
4.2 Occupational Health & Safety	92
4.3 Community Health & Safety	94
References and Additional Sources*	94

IFC Good Practice Materials



KEY CONSIDERATIONS FOR MINI GRIDS

Webinar series: Developing Mini Grids to IFC Performance Standards

December 2018



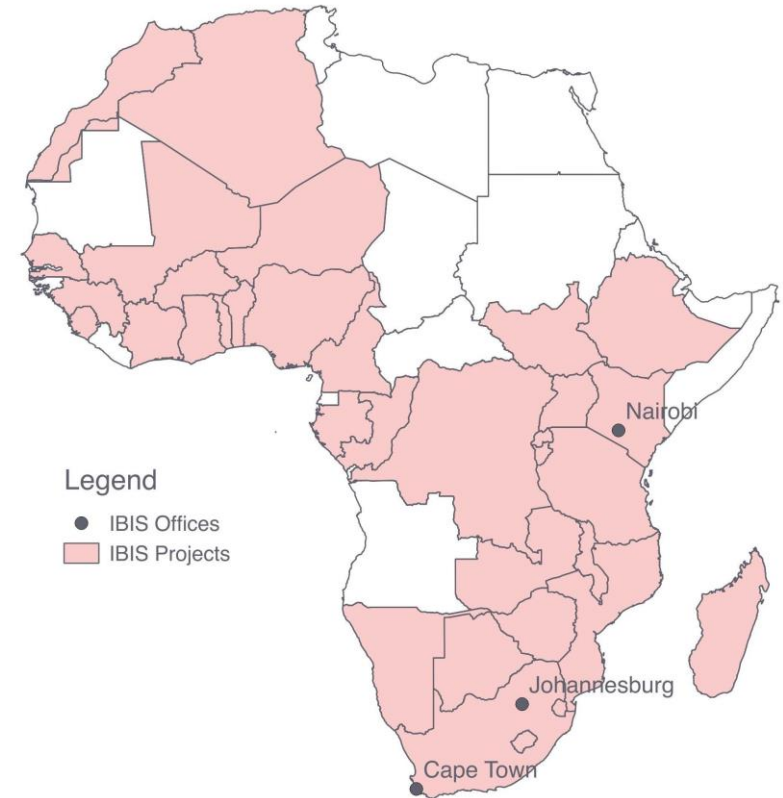
IBIS: WHO ARE WE?

HELPING WORLD-LEADING ORGANISATIONS CREATE VALUE AND INVEST RESPONSIBLY

IBIS is a premier emerging market sustainability consultancy that helps unlock value and improve the environmental and social performance of its clients. IBIS was established in 2015 by some of the most experienced and respected sustainability consultants in Africa primarily to support DFIs, Private Equity, Asset Managers and Impact Investors.

AWARD WINNING ESG ADVISOR

- 2018 Africa Global Funds (US) **Independent Advisory Firm of the Year**
- 2018 Global Law Advisors (UK) **Selected ESG Advisor for South Africa and Kenya**
- 2018 Finance Monthly (UK) **Due Diligence Advisor of the Year**
- 2018 Finance Monthly (UK) **Game Changer of the Year**



MINI GRID CHALLENGES:

Development in line with IFC
Performance Standards



Simi Vijay Photography ©/for the World Bank

IFC PERFORMANCE STANDARD 1

PS 1 sets the framework for **initial and ongoing risk management** through the entire lifecycle of a Project through establishment of an **ESMS**, identification of **risks and impacts, management programmes**, ensuring that the Project organisation has **sufficient capacity** and competency to address the identified risks, has an **ongoing monitoring and review** programme and has engaged project affected persons and interested parties through **stakeholder engagement activities**.

Points to consider under PS1:

- Development of overarching E&S policy and ESMS
- Identification of E&S impacts and opportunities across the lifecycle of the Project
- Initial stakeholder engagement and over lifecycle of Project
- Ongoing E&S monitoring and review of impacts and opportunities



PROJECT RISK RATING



IFC PERFORMANCE STANDARD 2

PS 2 recognises that the **workforce is a valuable asset** for any business and that a sound worker management relationship, through the protection of **fundamental rights of workers**, is key to the sustainability of a company/Project



Points to consider under PS2:

- Approach to recruitment – Employment Policy
- Employee Grievance Mechanism
- Management of occupational health and safety: Working with electricity and at height
- Working Conditions and Supply chain: Cobalt key component of Lithium ion batteries which is primarily mined in DR Congo – known cases of human rights violations and child labour.



PROJECT RISK RATING



IFC PERFORMANCE STANDARD 3

PS 3 outlines a **Project level approach** to resource efficiency and pollution prevention and control; where Projects may generate **increased levels of pollution** to air, water and land and consume finite resources

Points to consider under PS3

- Minimal risks: project footprint generally small and negligible air emissions and waste effluent during construction and operation.
- Management of hazardous waste is key
- Municipal waste goes to landfill - opportunities for circular economy approach to waste management.



PROJECT RISK RATING



IFC PERFORMANCE STANDARD 4

PS 4 recognises that **Project activities**, equipment and infrastructure can **increase community risks and impacts**. It is the **Project's responsibility** to avoid or minimise the risks and impacts to community health, safety and security of the Public

Points to consider under PS4:

- Use of public/private security – code of conduct
- External grievance and complaints mechanism
- Quality of installation and ongoing maintenance – education and training programmes
- Community liaison officer 'middle man' role

Gbamu mini grid project in Nigeria:
<https://www.greentechmedia.com/articles/read/nigeria-solar-powered-minigrids#gs.Wc6fWBw>



PROJECT RISK RATING



IFC PERFORMANCE STANDARD 5

Project related land acquisition and restrictions on land use can have **adverse impacts** on communities and persons that use the land. Refers to both **physical displacement** and **economic displacement**

Points to consider under PS5:

- Potential for land conflict as mini grids become more popular.
- Minimal impact if site selection process has been undertaken correctly: based on distance from the central grid and the potential load size, avoidance of agricultural land and occupied land.

<https://cleantechnica.com/2017/11/24/combining-solar-panels-agriculture-makes-land-productive/>



PROJECT RISK RATING



IFC PERFORMANCE STANDARD 6

Protecting and conserving biodiversity, maintaining ecosystem services and sustainably managing living natural resources are fundamental to sustainable development. PS6 addresses how Projects can **sustainably manage and mitigate** the impacts on biodiversity and ecosystem services throughout the **Project lifecycle**

Points to consider under PS6:

- Minimal impact if site selection has been undertaken sufficiently to avoid natural and critical habitats
- Stakeholder engagement activities to understand the value of ecosystem services, if any, to avoid.



PROJECT RISK RATING



IFC PERFORMANCE STANDARD 7

IFC PS 7 recognises that Indigenous Peoples, as a social group, are **distinct from mainstream** groups in **national societies** and are often among the most **vulnerable and marginalised** segments of population. IPs may be more vulnerable to adverse impacts associated with Project development than non IP communities; **through loss of identity, culture and natural resource based livelihoods.**

Points to consider under PS7:

- Mini grid projects rarely interact with IPs so negligible impacts.
- Free, Prior and Informed Consent for Indigenous People where land in the Traditional Ownership Structure or Customary Use is involved.



PROJECT RISK RATING



IFC PERFORMANCE STANDARD 8

IFC PS 8 recognises the importance of **cultural heritage for current and future generations.**

Points to consider under PS8:

- Negligible impacts if site selection process has been undertaken to avoid sites of cultural heritage, informed by stakeholder engagement activities.



PROJECT RISK RATING



CLIENT PROTECTION PRINCIPLES

Appropriate product design and delivery: Tailor made solutions to meet individual customer needs (Pre-paid, Post-paid, smart meters). Prevention of aggressive sales techniques.

Prevention of over-indebtedness: Customer screening. Ability to pay a deposit for the power system. Flexible payment plans

Transparency: A sale pitch that includes the product terms, condition and pricing. Ensuring that the sales personnel have adequate training to ensure customers understand the product options and pricing. Using language that customers can understand.

Responsible pricing: If the target market is lower income households then affordable rates will need to be considered.

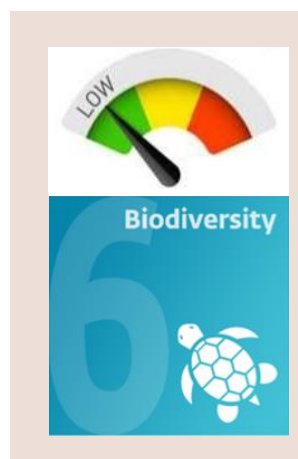
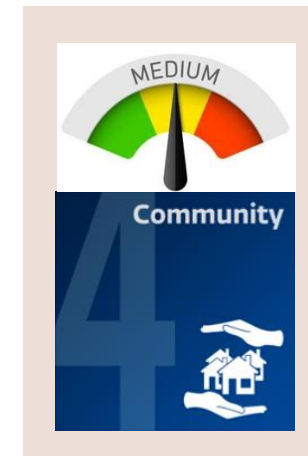
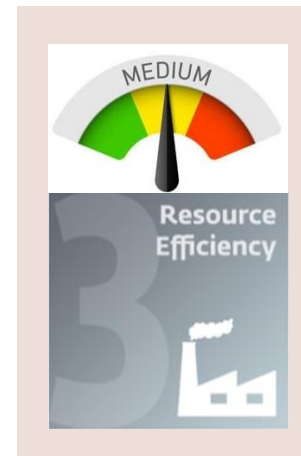
Fair and respectful treatment of clients: Documented in employee handbook, included in training of employees and sales team, procedures for engaging with default customers, temper-proof stickers to prevent fraud. They will not discriminate.

Privacy of client data: Customer data captured during the registration as well as payment behaviour is kept confidential and secure.

Mechanisms for complaint resolution: Customer satisfaction surveys, customer complaints toll free number. Informing customers about these reporting channels during the registration process.



SUMMARY



THANK
YOU

JOHANNESBURG
1ST FLOOR,
ACACIA BUILDING
THE AVENUE OFFICE
PARK
45 HOMESTEAD ROAD
RIVONIA, 2191

CAPE TOWN
UNIT 1
DEVONSHIRE COURT
20 DEVONSHIRE ROAD
CHELSEA VILLAGE, 7800

NAIROBI
1ST FLOOR,
ACACIA BUILDING
THE AVENUE OFFICE
PARK
45 HOMESTEAD ROAD
RIVONIA, 2191

www.ibisconsulting.com

Rachel Cochran
Principal Consultant
Mob: +27 79 671 3178
rachel@ibisconsulting.com
www.ibisconsulting.com

Jeremy Soboil
Director
Mob: +27 82 824 9678
jeremy@ibisconsulting.com
www.ibisconsulting.com



Establishing E&S Management System (part 1)

Laura Lahti
Impact Manager
Camco Clean Energy

REPP Template

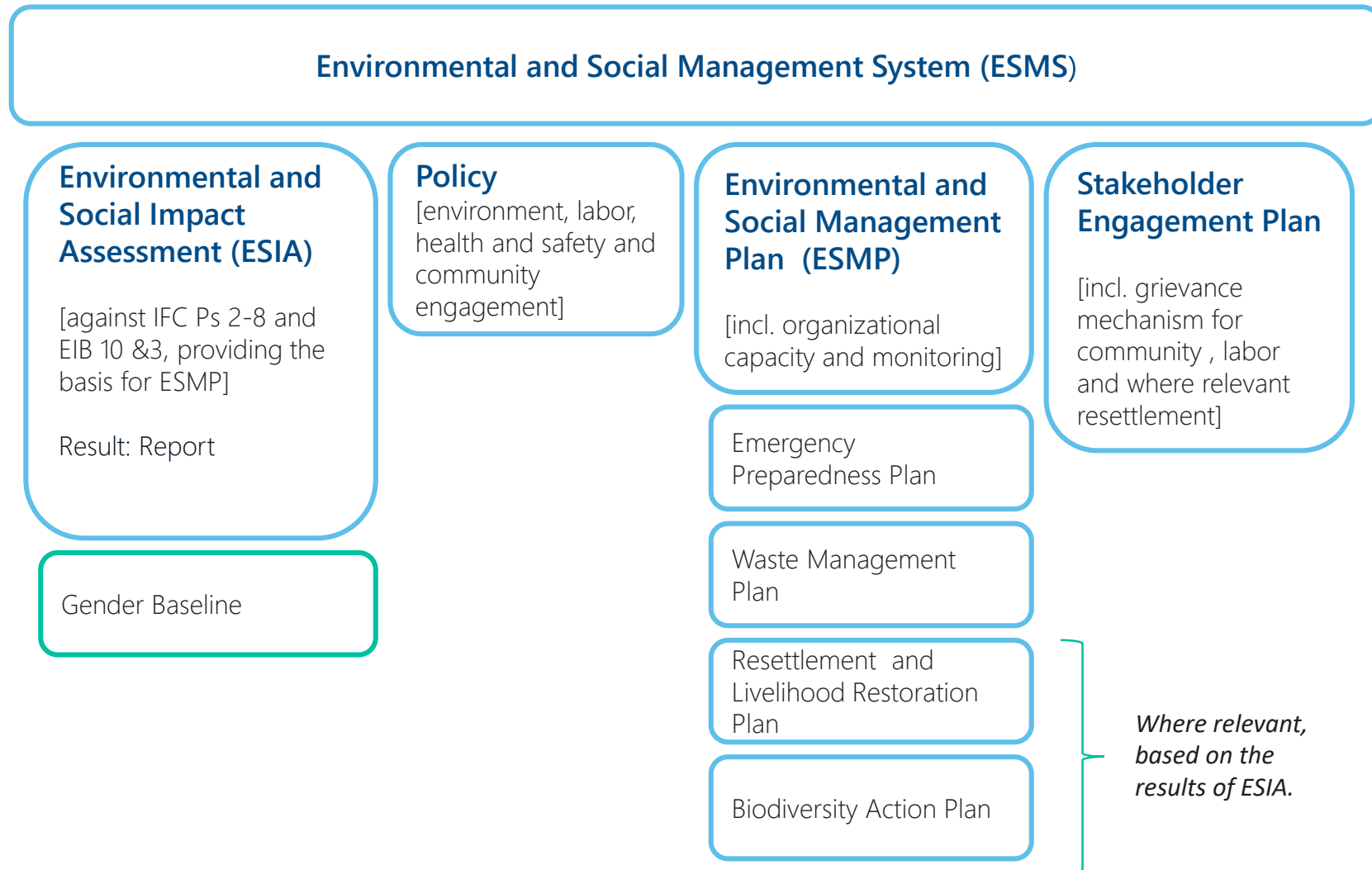
ESMS Guidance for Micro-Grid Projects seeking REPP Support

Standard	IFC PS 3: Resource Efficiency and Pollution Prevention
Item	Pollution prevention: Wastes, hazardous materials and pesticide use and management
Description	<ul style="list-style-type: none">• Avoid or minimize the release of pollutants and/or control the intensity and mass flow of their release
Guidance	<ul style="list-style-type: none">• The developer needs to prepare and implement a waste management plan for the project, including actions for the appropriate handling and recycling or disposal of e.g. back-up batteries and solar panels at the end of their life and the minimization and appropriate management of construction waste.• In the ESIA report, the E&S consultant should identify potential sources of waste, assess the associated risks and impacts. The E&S management plan should then recommend measures to avoid, minimise and appropriately handle it and to monitor the performance of these measures (in the E&S monitoring plan).• <u>Checklist:</u><ul style="list-style-type: none">○ Are fuel and other hazardous materials securely stored above flood level and at least 20 m from any waterbody, watercourse, canal or storage pond?○ Is construction waste disposed of in a manner which minimize pollution?○ In case of solar PV projects, are the developers' policies on maintaining of batteries and solar panels, and their disposal at the end of their life satisfactory?○ Consider Extended Producer Responsibility, whereby the used materials are reabsorbed by the manufacturer, thereby reducing the mining of raw materials
Waste Management Plan	[Establish Waste management Plan and Recycling Plan incl. required actions, roles and responsibilities. Include here.]



General Structure

Environmental and Social Management System



General Structure

Environmental and Social Management System



Most important elements of ESMS for mini-grids!

Policy (IFC PS1)

Environmental and Social Management System

Provide the rules you expect your employees to follow and the public statement you make about what your company believes in and how it conducts business.



Establish overarching policy defining the environmental and social objectives and principles that guide the Project(s).

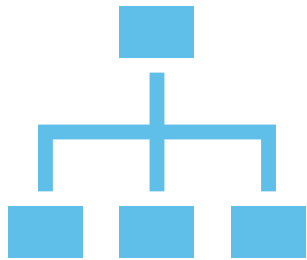
Remember to consider responsibilities for its execution.

Key considerations:

- Environmental laws and regulations;
- Labour and Working Conditions;
- Community Health and Safety;
- Specify that the Project(s) will comply with the applicable laws and regulations.

Organizational capacity and competency (IFC PS1)

Environmental and Social Management System



Clear communication is the key!

Establish and maintain an **organizational structure** that defines roles, responsibilities and authority to implement the ESMS and designates specific personnel with sufficient skills, knowledge and resources.

Consider **who, what, when and how?**

Consider **different levels of engagement**: senior management, ESMS team, Workers and Managers, procurement and their relative training needs.

The developer must **designate a position** within the company that will oversee the management and mitigation of each E&S risk.

Use **organizational diagram** to better understand the reporting lines and designation of responsibilities in each role.

Ensure relevant **training**: (1) raise awareness; (2) gain commitment; and (3) provide people the knowledge and skills they need to implement the ESMS.

Stakeholders

Are those who will be or are likely to be directly or indirectly affected, positively or negatively, by a project (commonly referred to as project-affected people or project-affected communities), as well as those who might have an interest in, or may influence, the project.

- Customers
- Villagers
- Village councils
- National and local authorities



Stakeholder Engagement (IFC PS1)

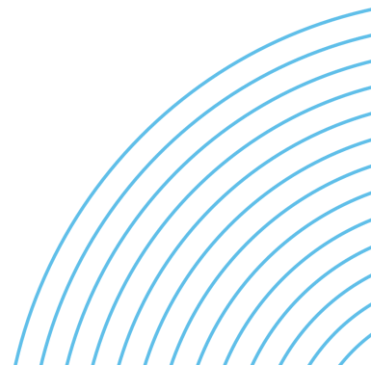
Environmental and Social Management System



- Mitigate risk
- Manage expectations
- Establish support



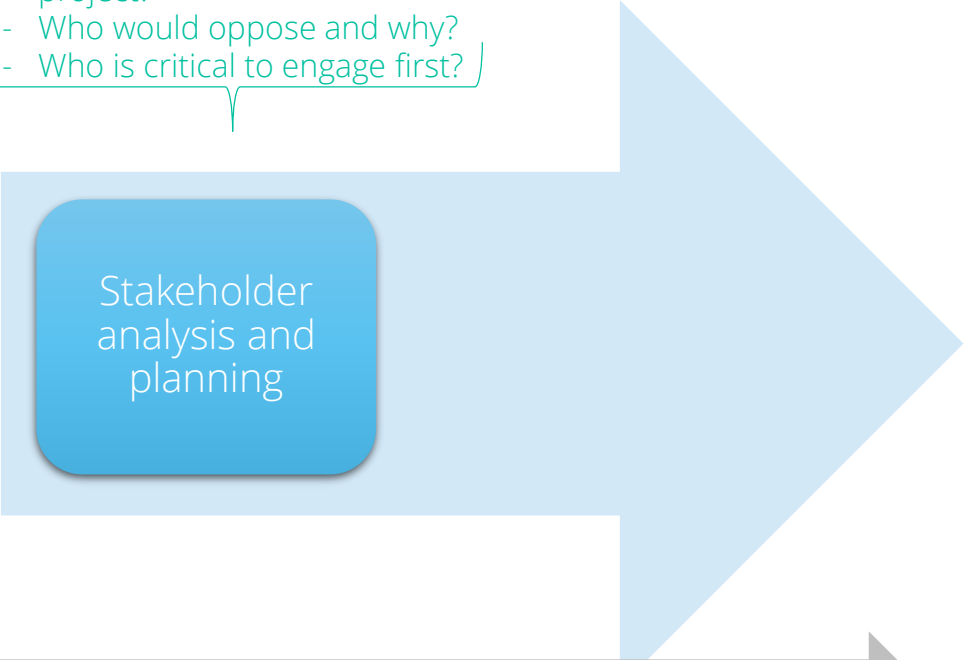
Source: Mott Macdonald



1. Plan

Stakeholder Engagement

- Mandated by law or other requirements?
- Who will be adversely affected?
- Which stakeholders might help to enhance the project?
- Who would oppose and why?
- Who is critical to engage first?



Stakeholder
analysis and
planning



PROJECT DESIGN AND PLANNING

1. Plan

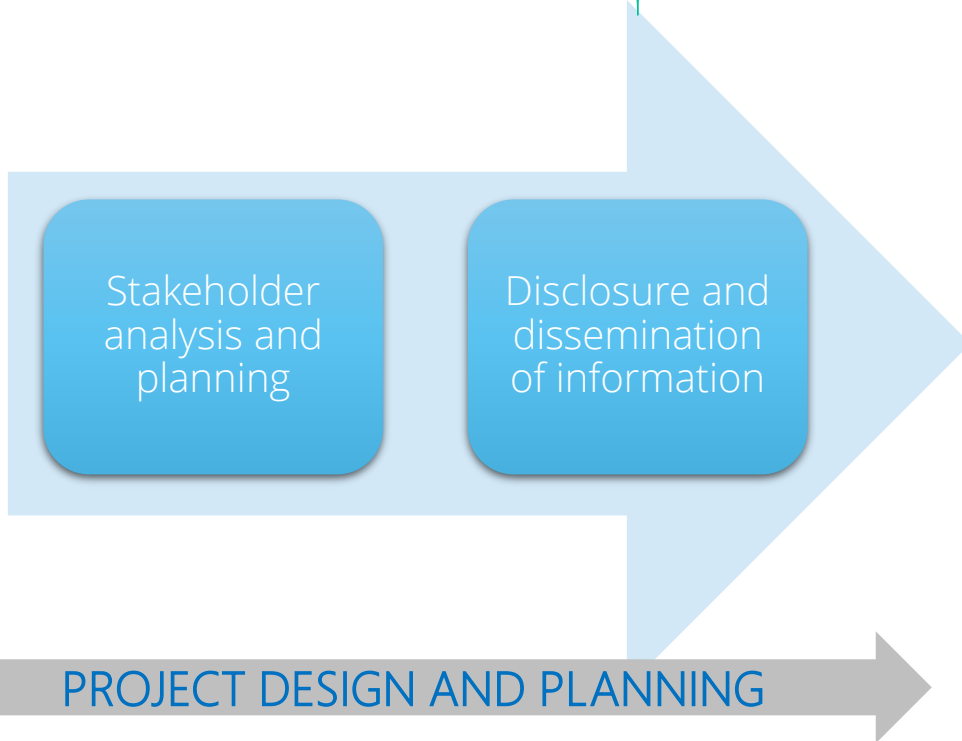
Stakeholder Engagement

- Purpose and scale
- Duration
- Risk and impacts and relevant mitigation measures
- Envisaged stakeholder engagement process incl. grievance mechanism

Stakeholder
analysis and
planning

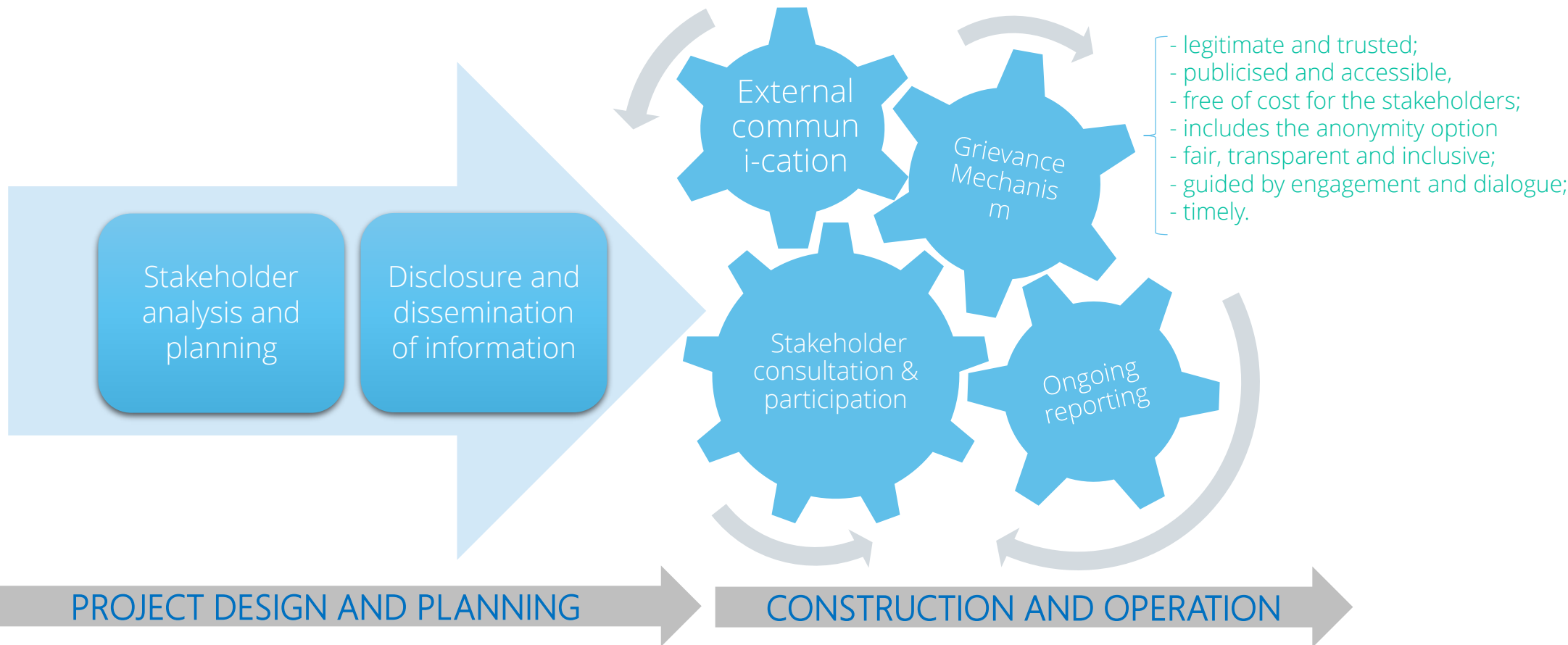
Disclosure and
dissemination
of information

PROJECT DESIGN AND PLANNING



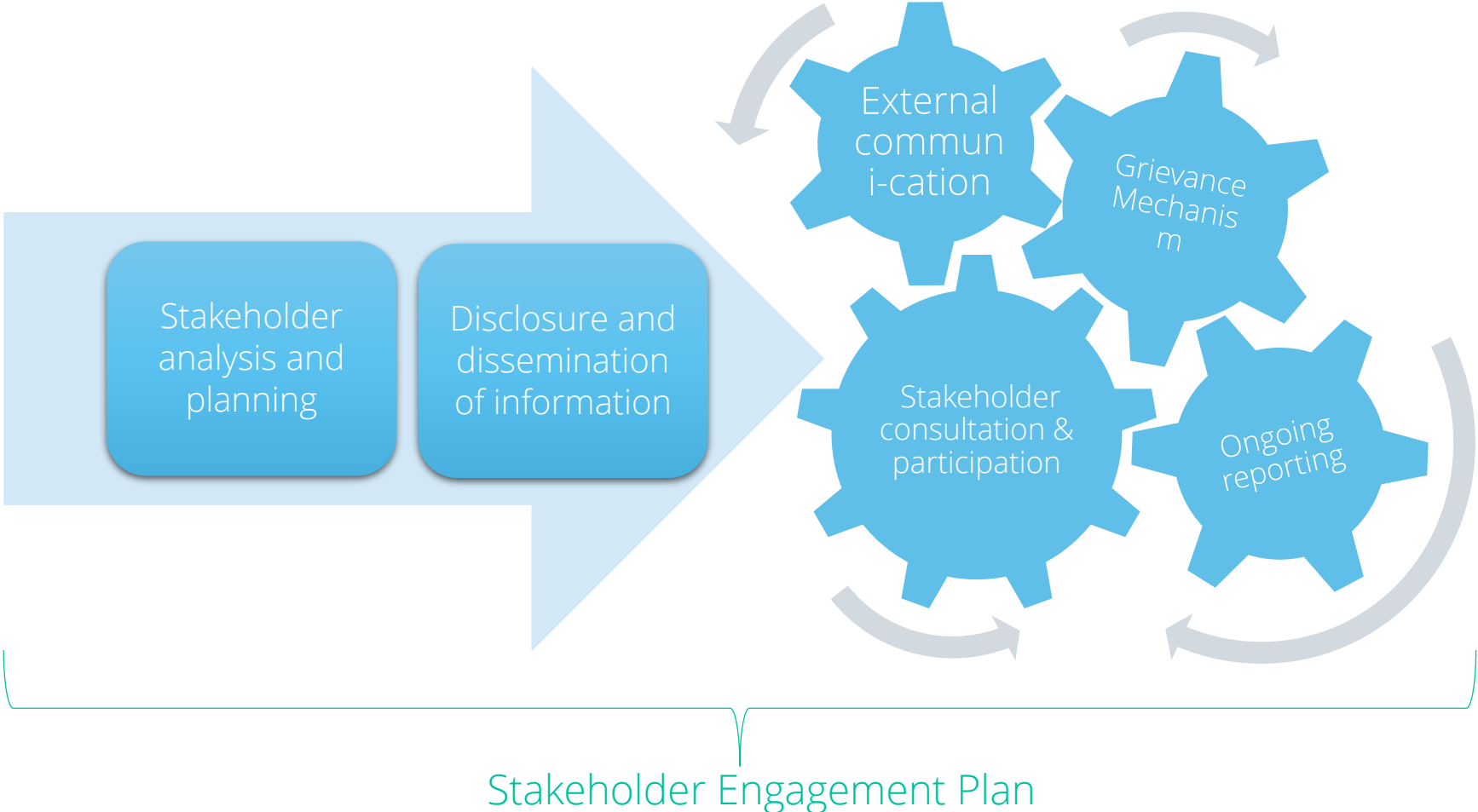
2. Engage

Stakeholder Engagement



2. Engage

Stakeholder Engagement



Good practice considerations for Stakeholder Consultation



- When and where?
- Who attended?
- Topics and themes discussed?
- What were the results?

Customer Checklist

As part of Stakeholder Engagement

Before any contract is signed:

Are the services provided by the micro-grid clearly explained before any contract is signed?

Is the tariff and the tariff structure clearly understood by the customer?

Before their house is connected to the grid:

Have customers received advice on health and safety?

Has use of electricity in a safe manner been explained to customers?

Once the house is connected:

Do customers have an easy way to ask a question or complain if the system is defective or not performing to their expectations (grievance mechanism)?



For customers, it is important that the developer follows a stringent customer engagement process.



Thank you!

For more information, please contact:

**RENEWABLE ENERGY
PERFORMANCE PLATFORM**

Unit 4.12, Clerkenwell Workshops
31 Clerkenwell Close
London, UK
EC1R 0AT

 <https://repp.energy/>

 +27 7954 23553

 laura@camco.energy

REPP is managed by:  **camco**
CLEAN ENERGY