

VBIAF Sectoral Guide Town Hall

Energy Efficiency



Value-based Intermediation (VBI)
Strengthening the roles & impact of Islamic Finance

10 Sept 2020
Xxxx p.m.
MSTeams/xxxx

ENERGY EFFICIENCY



Outline of Presentation

1

Definition and Scope

Energy Efficiency Initiatives in Malaysia
The Scope of the Guide

2

4 Clusters & The Project Life Cycle

Buildings
Industrial Facilities
Transportation
Domestic Appliances

3

Commercial Proposition

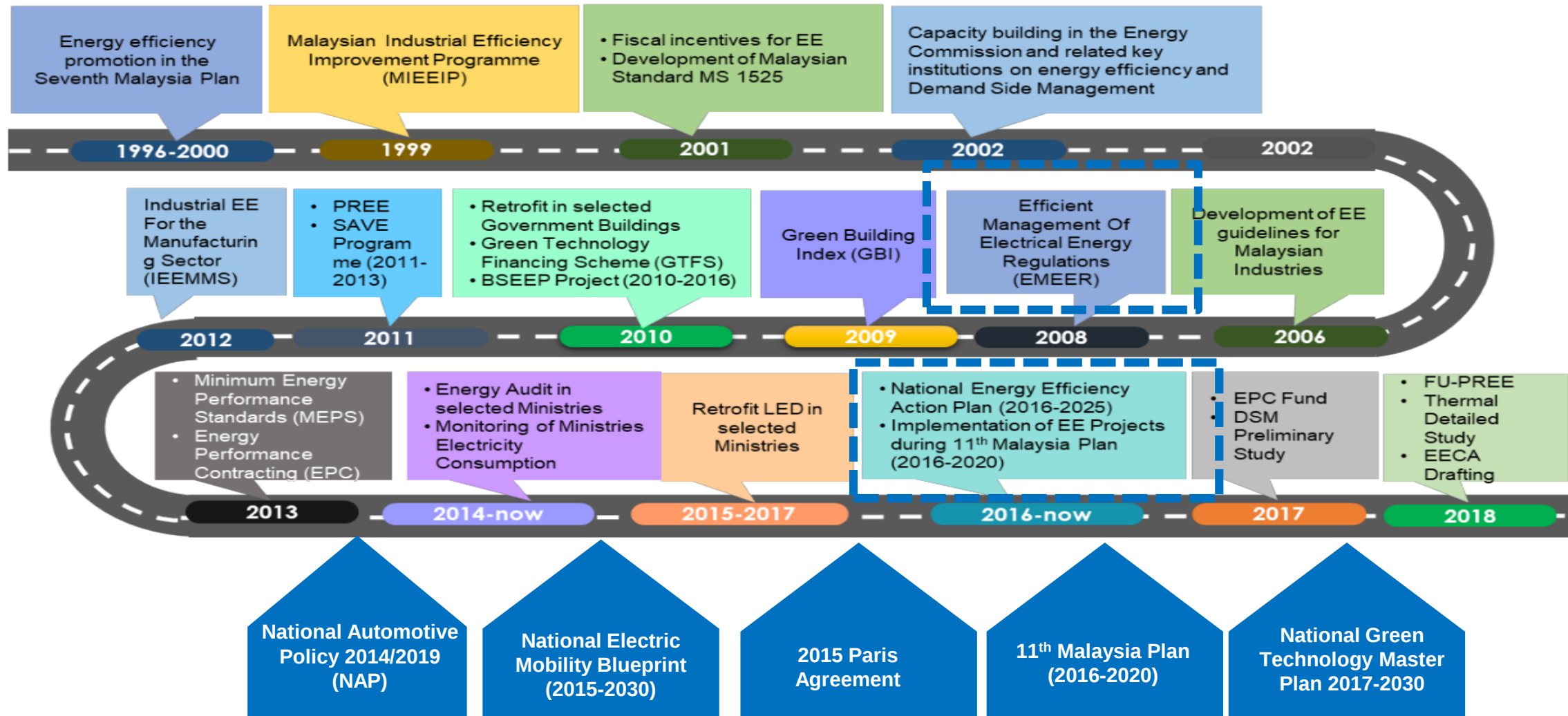
Government Programmes & Initiatives
Financing

4

Impact- Based Risk Management

Risk Identification
Risk Measurement
Risk Management & Mitigation
Risk Reporting & Monitoring

Energy Efficiency Initiatives in Malaysia



The Definition

- Energy Efficiency (EE) is the ratio output of performance, service, goods or energy to an input of energy
- Using *less/same* energy to perform the same task achieve *same/higher* level of output (eg. eliminating energy waste)
- **EE is not the same as energy conservation** which is the act of saving energy by reducing a service because conserving energy involves cutting back on energy use

Renewable Energy



Energy Efficiency

The Importance

- Key activities in reducing GHG emissions and tackling climate change
- Energy intensity (energy/ GDP) in Malaysia on the rise since 2000
- In 2015 Paris Agreement, Malaysia has committed to reduce its GHG emissions intensity to Gross Domestic Product (GDP) by 45% by 2030

4 Clusters & The Project Life Cycle

5

4 Clusters & The Project Life Cycle				
Cluster	 BUILDINGS (residential and commercial, exclude industrial facilities) Improvements in energy consumption for heating/cooling such as through enhancing building codes, design, retrofit and renovation, energy savings technologies, EE standards and certifications	 INDUSTRIAL FACILITIES (including commercial appliances) Making industrial processes more energy efficient throughout the lifecycle including improvements in energy savings such as through energy management systems, industrial equipment standards	 TRANSPORTATION Transports that meet better emissions performance level and fuel consumption and may encompass fuel-efficient vehicles, hybrid EV, full EV and alternative fuel vehicles	 DOMESTIC CONSUMER APPLIANCES Ready-to-use/ standalone appliances that meet EE standards and certifications
Project Life Cycle				
Design and Planning	Activity involves developing the design for energy strategies and technologies including preparing a comprehensive energy analysis of the design / technology concepts. This will allow comparison between estimated/ target energy use and final energy use when in operation (i.e. end users).			
Installation & construction/ manufacturing	Activity involves on-site installation and/ or construction of EE design / appliance/ technology ; and manufacturing of EE products e.g. equipment, vehicle, appliances. This also includes EE consideration in the performance/ execution of the installation, construction and manufacturing activities themselves.			
Operations / End users	1. Residential building owners and tenants. 2. Commercial building owners and tenants	1. Industrial facility owners and tenants (e.g. manufacturers, factory, warehouse). 2. SME businesses using commercial appliances (e.g. Food producers, printing companies, garment producers).	1. Commercial/ road freight vehicles (e.g. trucks). 2. Other freights (e.g. rail, ships, airplane). 3. Private/ road passenger vehicles (e.g. cars, motorcycles, vans). 4. Commercial/ road passenger vehicles (e.g. buses, vans). 5. Other commercial passenger vehicles including mass transit (e.g. trains, ships, airplanes)	Not applicable as this involves ready-to- use/ standalone products.
Ancillary service providers	1. Project design and planning 2. Metering and monitoring services 3. Energy performance contracting 4. Energy consultants			

The Guide does not address the non-EE impact-based risk considerations such as ESG criteria related to the general construction or manufacturing of buildings, industrial facilities, transportation and domestic / consumer appliances.

The Commercial Proposition

EE activities serves as business opportunities to FI. Energy sector is one of the 4 key pillars in the National Green Technology Policy. EE is also among the sectors in catalyst to create a low carbon and resource efficient economy in the National Green Technology Masterplan Malaysia 2017-2030



For Government Buildings

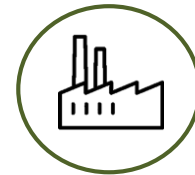
Promotes EE in government buildings, which involves service providers in promoting relevant technologies that can achieve energy costs saving



Transportation

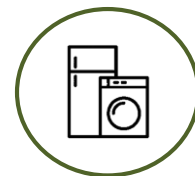
Under the National Electric Mobility Blueprint (2015-2030), by 2030, Government targets

- 100,000 electric cars
- 100,000 motorcycle
- 2,000 electric buses



Industrial Facilities

Initiative 3 (Energy audits and energy management in buildings and industries) under the NEEAP



Domestic / Consumer Appliances

Energy rating and labelling of household appliances to facilitate end users' decision making during the initial purchase cost and the operational cost for electricity



Government Programmes/ Initiatives

Green Technology Incentive package is extended until end of 2030 to strengthen the development of green technology.

This comes in form of investment tax allowance for green projects/ green technology assets purchase and income tax exemption for companies that undertakes green technology service activities



Financing Opportunities

- Financial support through participating FIs for producer, user and ESCOs to finance investments/ assets related to EE projects and EPC.
- Rebate of 2% on interest/profit rate charged by FIs
- 60% government guarantee on financing provided by FIs
- Funds up to RM2 billion
- FIs to develop financial products and services to encourage EE projects by customers

Examples of EE Financing & Investment

Uses an energy efficiency calculator to assess potential energy and cost savings of a project upfront



Financing facility to developer of green and retrofit buildings



Financing facility to upgrade houses with environmental-friendly features such as solar panels that offers borrowing rate 0.1% lower than standard loans.



Examples of financial products & services

Green Mortgage with 1% reduction on interest



25% premium refund on its mortgage loan insurance premiums to purchase EE homes or renovations



First mortgage loans for building & refinancing LEED certified commercial buildings.



Clean Air Vehicle Loan with preferential rates for hybrids



Impact- Based Risk Management

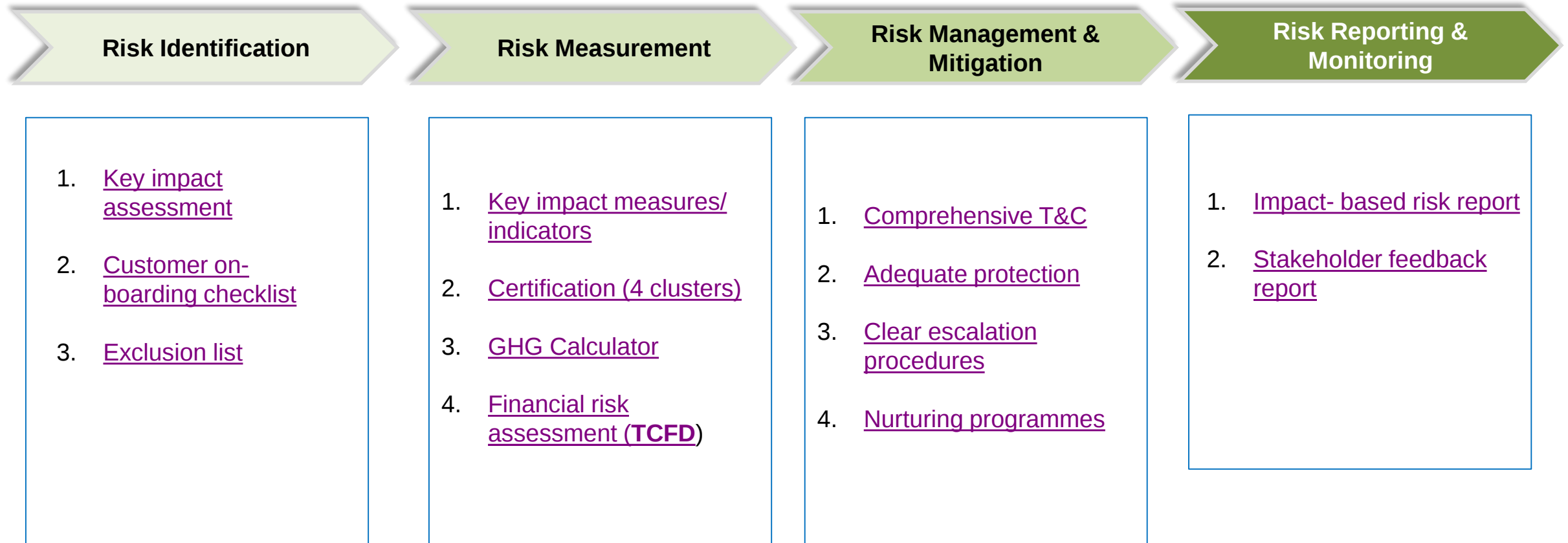
A clear commitment in support of EE activities:

- 1 Specified amount of funds for EE projects
- 2 Offering advisory services to identify and take on cost effective EE projects
- 3 EE targets that are measurable and can be monitored
- 4 Incentivising counterparties



Impact- Based Risk Management

In order to safeguard FIs commitment to EE, below are the risk processes suggested for FIs to implement:



Risk Identification

1 Key Impact Assessment

Identify positive (benefits) and negative (risks) impacts related to EE activities

**Non energy benefits such as increase in asset value, reduced operations or maintenance costs, improved productivity and health wellbeing are not considered in this guidance*

2 Customer On Boarding Checklist

The checklist is based on the key impact based risk categories / themes and potential risk transmission channel



Performance Risk

May impact repayment ability if financing rates are linked to performance

- ✓ Energy management system
- ✓ Accredited EE design of premise, including project implementation plan
- ✓ Accredited EE technology
- ✓ Accredited EE performance report / Certification / rating. (post-implementation)



Energy Risk

Volatility in energy prices negatively impacting energy cost savings

- ✓ Energy consumption measure – electricity bill
- ✓ Use of specialised / energy intensive equipment.
- ✓ Determination of high energy consumption sector.



Construction Risk

Poor execution of projects which may lead to additional costs

- ✓ Project implementation plan
- ✓ Certification of installation by suitably qualified contractors.



O&M Risk

Improper O & M may negatively impact long term EE performance

- ✓ Availability of internal expertise (human resource).
- ✓ Scheduled maintenance arrangement



M&V Risk

Poor M&V methodology resulting in uncertain outcome of energy savings

- ✓ Credible M&V standard
- ✓ Credible periodic M&V report

The above risk categories may have different impact against project life cycle of different cluster

3

Exclusion List

Avoiding specific activities that are against FIs commitment to support EE projects

i

Strategic direction by relevant authorities and implementation of national standards and laws

iii

Mitigation plan including adoption of renewable energy sources

ii

Availability of EE technology and/ or alternative(s) to energy equipment/product

iv

Committed transition plan towards improved EE solutions/ practices

When financing/ investing in EE projects, **avoid counterparties that are not registered with EC**. ECOS provides the following registry:



Registered Electrical Contractors



Registered Electrical Competent Persons



Registered Electrical Energy Manager

Risk Measurement

11

Development of different impact metrics / indicators to assign appropriate risk score / level (High, Medium, Low Risk) – according to respective FIs internal risk methodologies

Tools

1 Key Impact Measures / Indicators



Accreditation ratings by relevant body

1. BEI government building design

High – 1 star

Medium – 2-3 star

Low – 4-5 star

2. Private Vehicles with EEV Certification

High – No

Low - Yes

2 Certification



- Certified counterparty by an established certification standard may be deemed as sufficiently managed the impact-categories / themes.

- May be assigned a Medium / Low risk score

- Eg:

- MyCREST
- Penarafan Hijau JKR
- Energy Star
- EEV

GHG Reports 3

- Portfolio approach to compute GHG emission

- Methodologies recommended

1. GHG Protocol as recommended by TCFD

2. ISO 14064

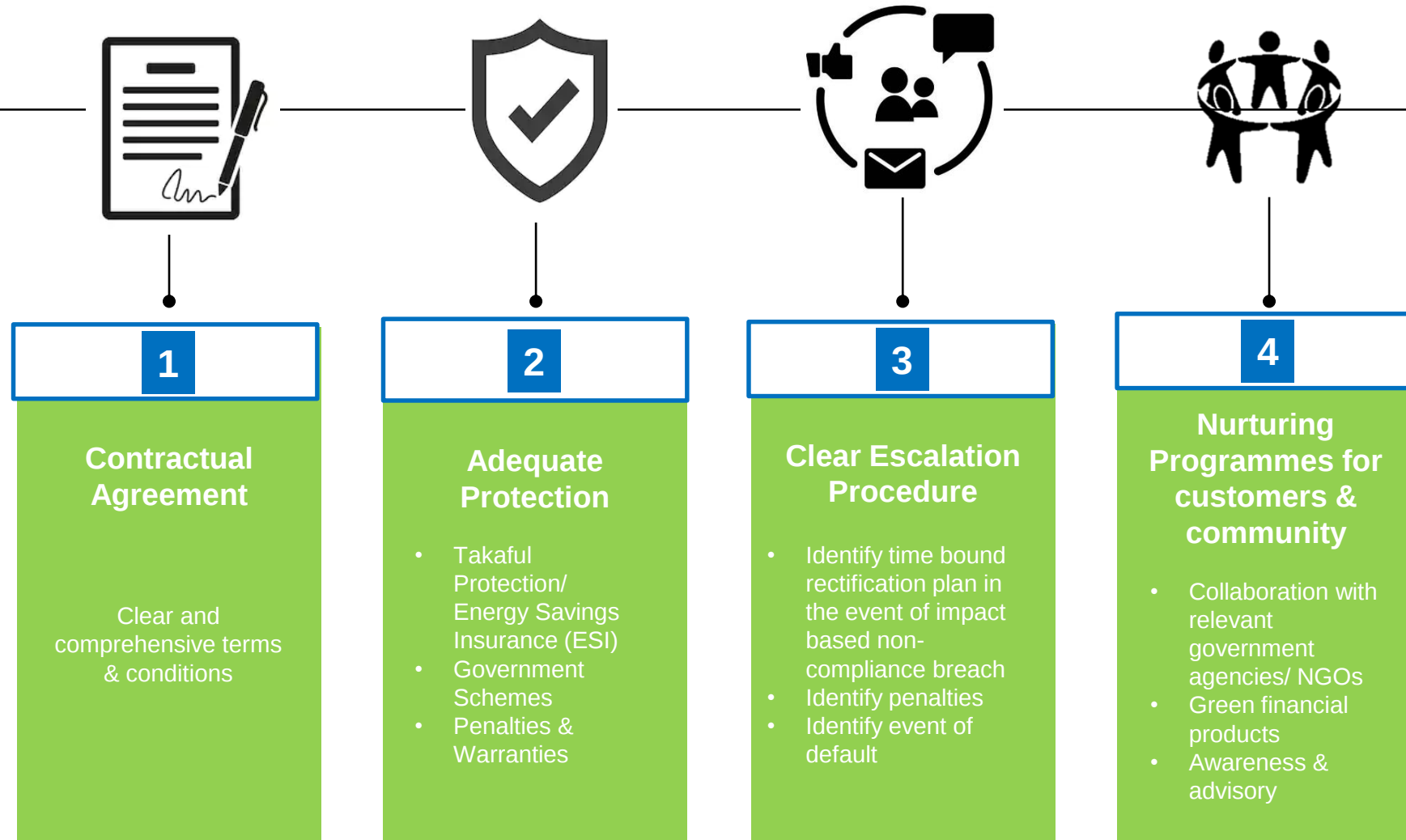


TCFD | TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

4

Example:

Physical	Transition	Financial Risk / Impact
Damage to building & infrastructure	• Substitution of existing products/services with higher EE options • Rapid changes in EE technologies may require frequent upgrades	Actual energy savings from EE improvements may not be fully materialise to cover investments made to transition to high EE technologies



Risk Reporting & Monitoring

1

Impact- Based Risk Report

Reporting Channel and Type of Report

- Reporting mechanism to **monitor impact-based performance**
- Contain an **'Objective'** and **minimum components** such as impact based target(s), key impact risk(s) and outlook, impact- based metrics at portfolio level, climate change metrics and compliance to existing standards/ certification

Stakeholder

Internal

- BOD
- Employees

External

- Regulators
- Shareholders
- Customers
- Community

Channel

- BOD meetings
- Department meetings
- Feedback forms, surveys
- Intranet

- Meetings
- Forums
- Annual Report
- Briefings
- Distribution channels
- Feedback forms, surveys
- Social media
- Community engagement programmes

Type of Report

- Impact based risk reports
- Stakeholder feedback
- Trainings on relevant sustainability policies

- Impact based risk reports
- Stakeholder feedback

Frequency

- Ad Hoc
- Annually
- Regular

- Ad Hoc
- Annually
- Regular

2

Stakeholder Feedback Report

- Monitor and report on stakeholder feedback
- A stakeholder feedback report may contain an objective and few minimum component

Objective

Provide comprehensive information on key capacity building/ engagement initiatives and feedback/grievances from wider stakeholder

Minimum Component

1. Nature of capacity building for key stakeholders
2. Nature/ types of feedback / grievance
3. Summary and status of action plan
4. Impacts created

THANK YOU

Presented by Norlymalis Jazzuir of Bank Muamalat

The document is a collaborative effort by the VBI Community of Practitioners, regulators and relevant stakeholders.



BANK NEGARA MALAYSIA
CENTRAL BANK OF MALAYSIA

