

JCM Methodologies and BAU

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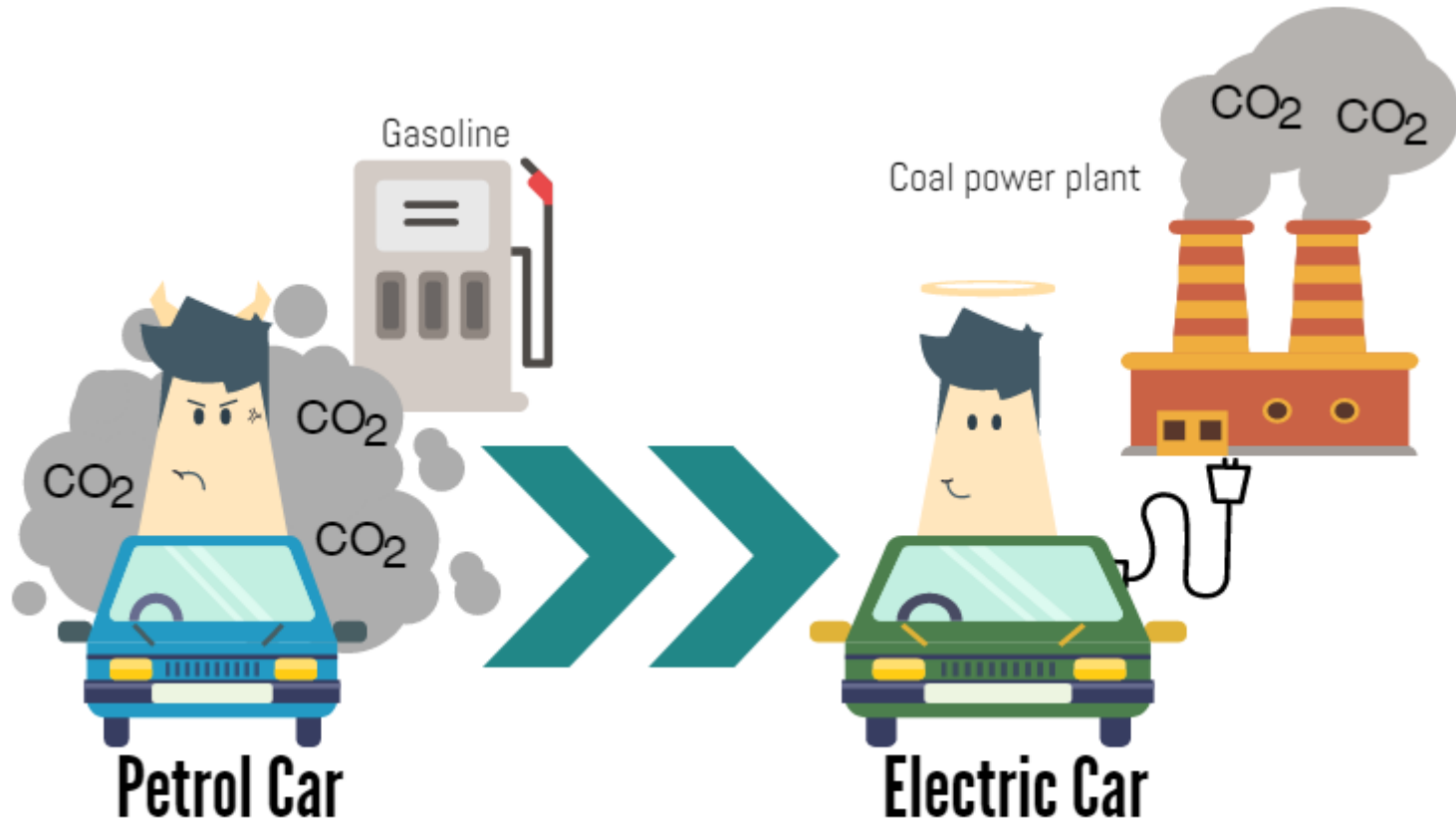


Presentation outline



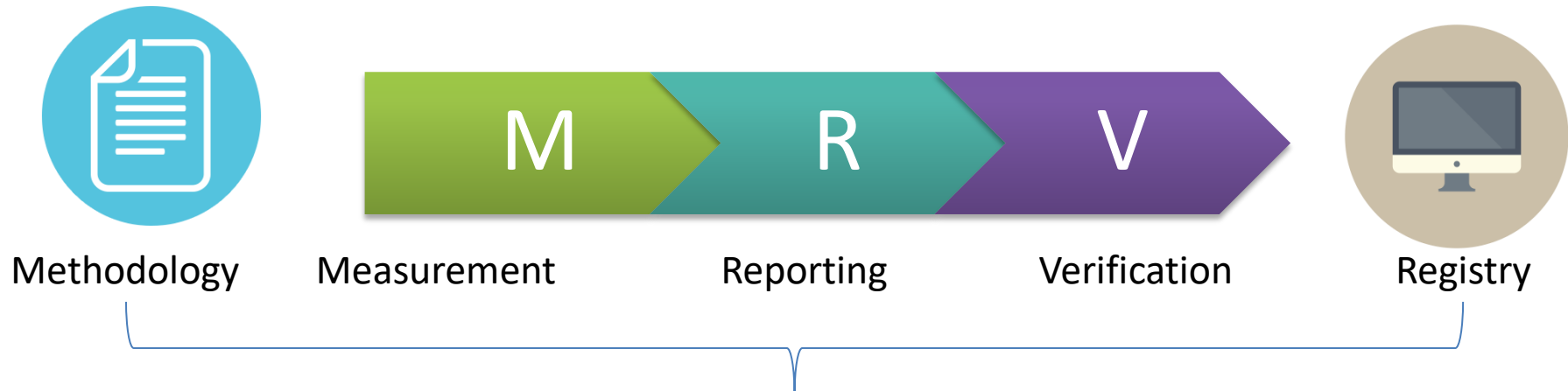
- Why methodology is important?
- What is the methodology in JCM scheme?
- Net emission reduction
- Determining BAU

How can we know a mitigation activities is effective?



Methodology provided a guideline for calculating carbon emission, and could justify the emission reduction of certain activity

Why methodology and MRV is important?



elements to have a robust emission reduction

i.e 1 tCO₂ is really 1 tCO₂

- Many of emission reduction activities are very difficult to be measured and recorded.
- To make climate change activities transparent and accountable.
- To avoid double claiming, double registering, double financing, and double counting.

Methodology in JCM

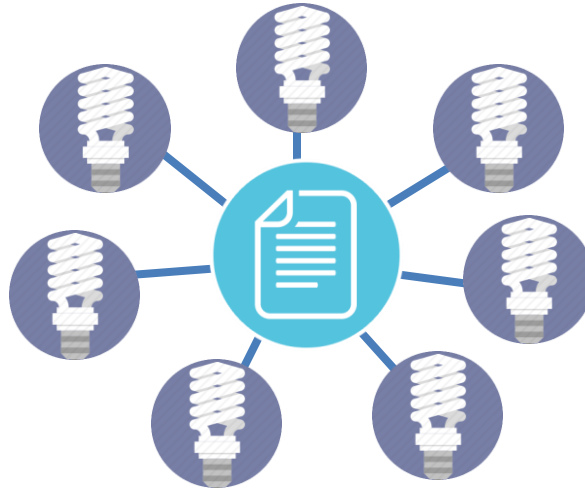
- JCM methodologies should cover these 3 elements:

Eligibility criteria

Monitoring method

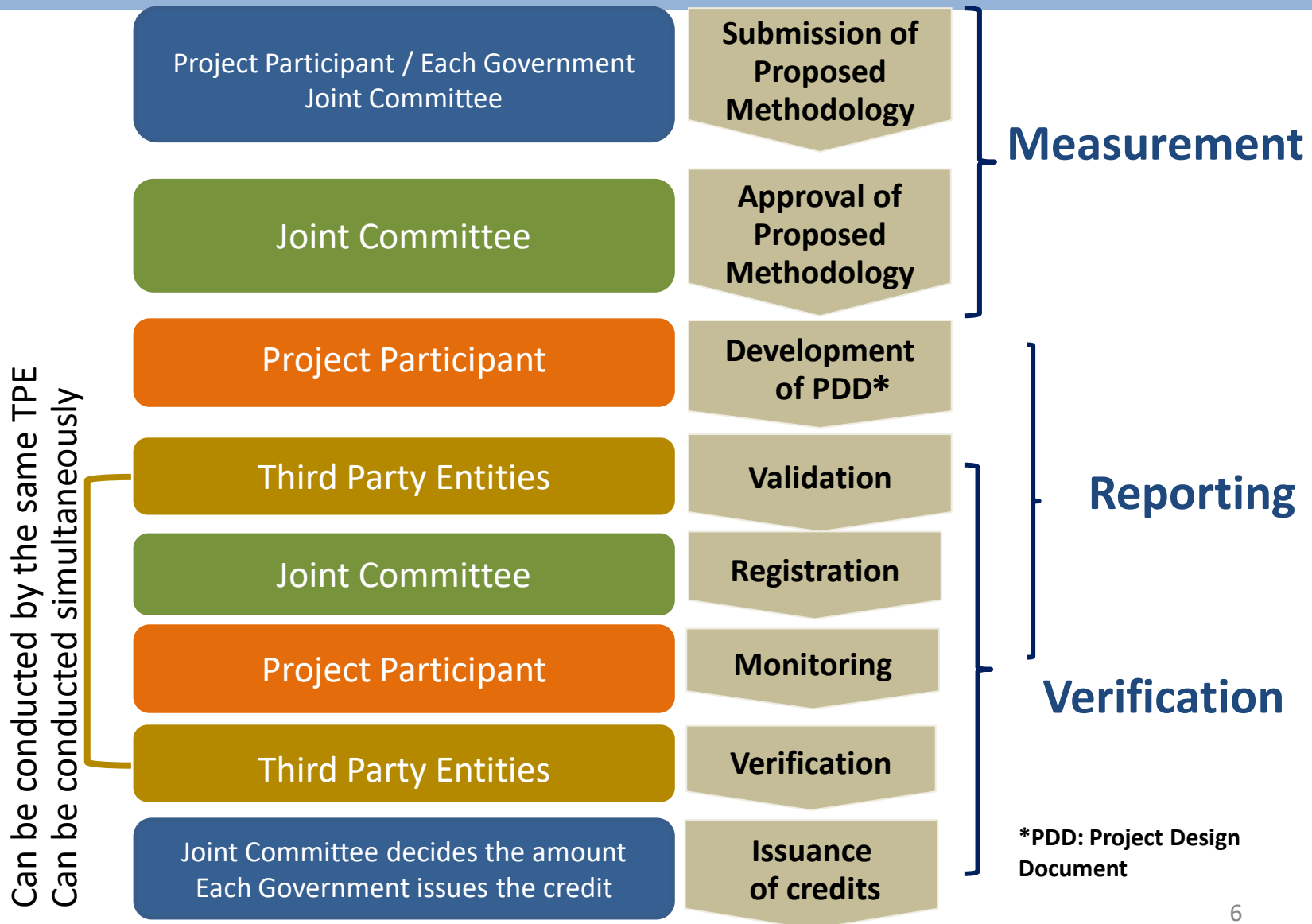
Emission reduction
measurement
method

- The methodology is designed according to the type of applied technology.



1 methodology is applicable for many projects which utilize the same technology

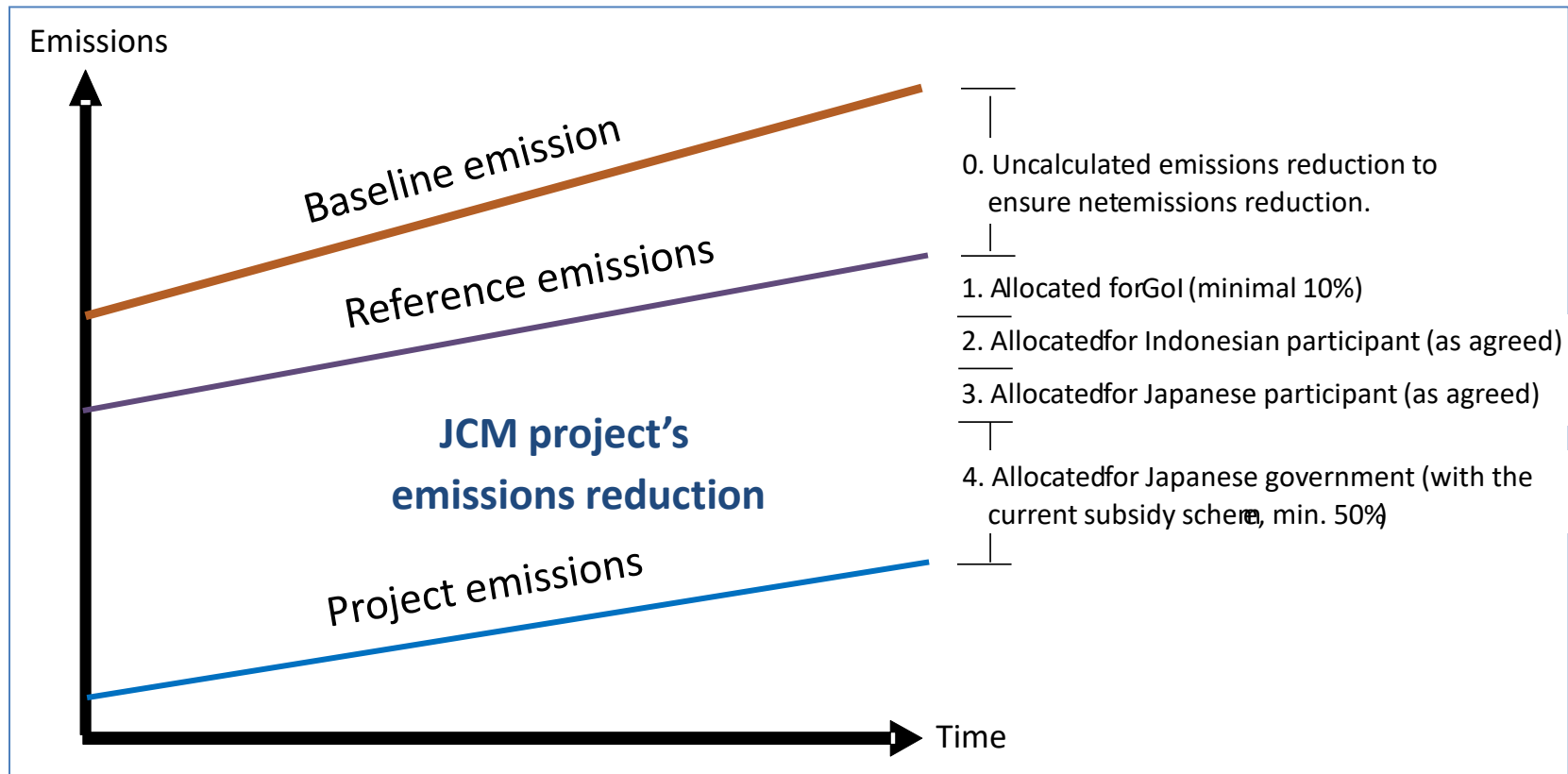
JCM Project Cycle



Key considerations on JCM methodology development in Indonesia

Aspect	Examples
Technical	<ul style="list-style-type: none"> ✓ Conservativeness of reference emission (case-by-case) ✓ Reference to available standards for default values and regulations [SNI (Indonesian National Standard), ISO, and JIS (Japanese standard)] ✓ Scientific principles and references
Reference data source	<ul style="list-style-type: none"> ✓ Consideration of Indonesian circumstances: <ul style="list-style-type: none"> • The level of technology widely used in Indonesia • Interviews with relevant resource persons • Collection of real data and field survey ✓ Source of available data (IPCC, national data, public data)
Compliance	<ul style="list-style-type: none"> ✓ Compliance to international and national regulations (e.g. control of refrigerants, hazardous materials) ✓ Compliance to JCM agreed rules, guidelines, and principles
Relevance	<ul style="list-style-type: none"> ✓ Applicability to real project situation ✓ Use of various energy sources at project locations ✓ Improvement from 'business as usual'
Ease of understanding	<ul style="list-style-type: none"> ✓ Use of simplified diagram ✓ Simplified language
Consistency	Terms and reference used consistent with other methodologies applied in Indonesia

Emission reduction calculation in Indonesia



0: Net emissions reduction

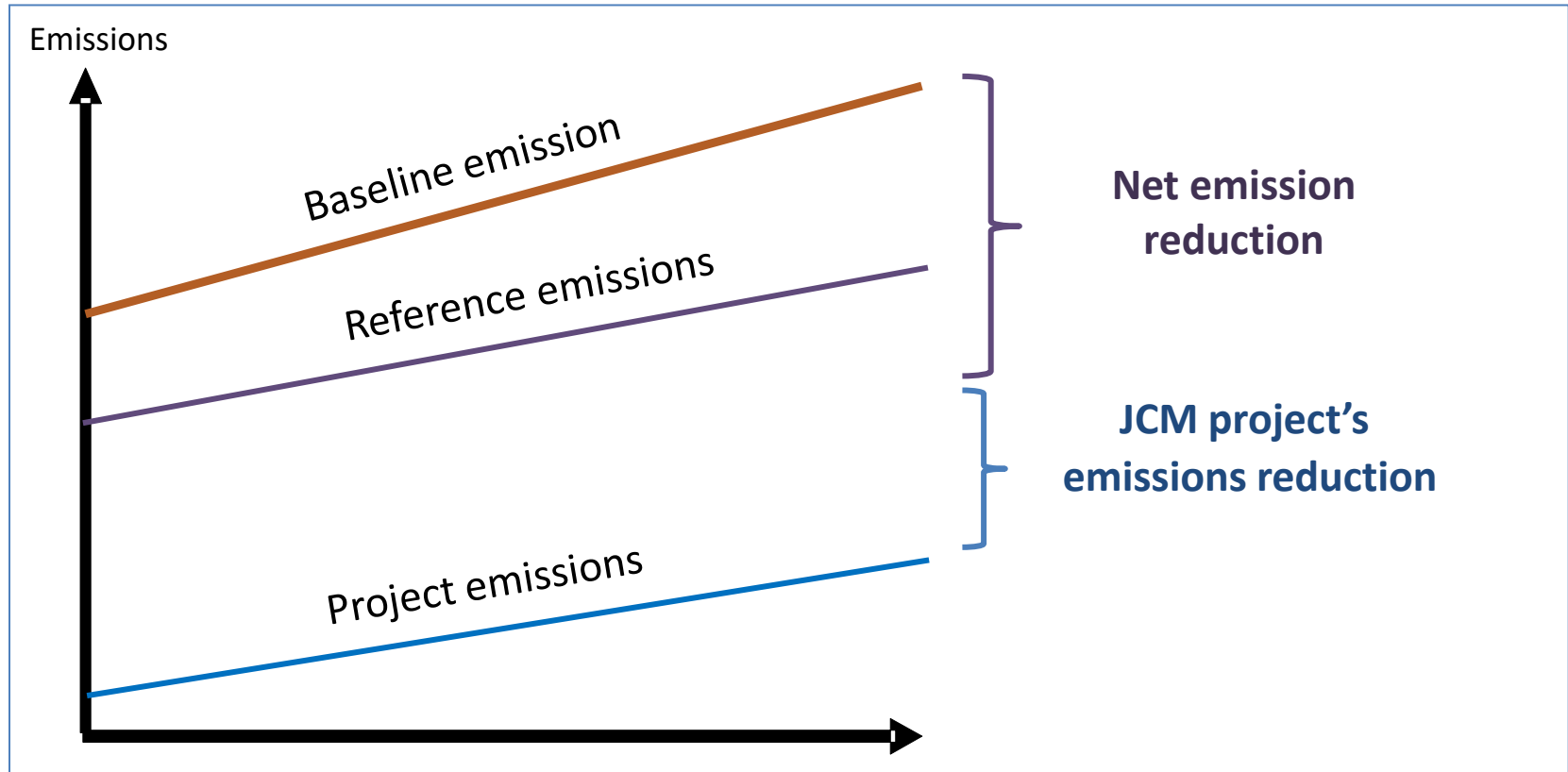
1: National emissions reduction

2: National emissions reduction

3: Internationally transferred mitigation outcomes (ITMOs)

4: Internationally transferred mitigation outcomes (ITMOs)

Net emission reductions



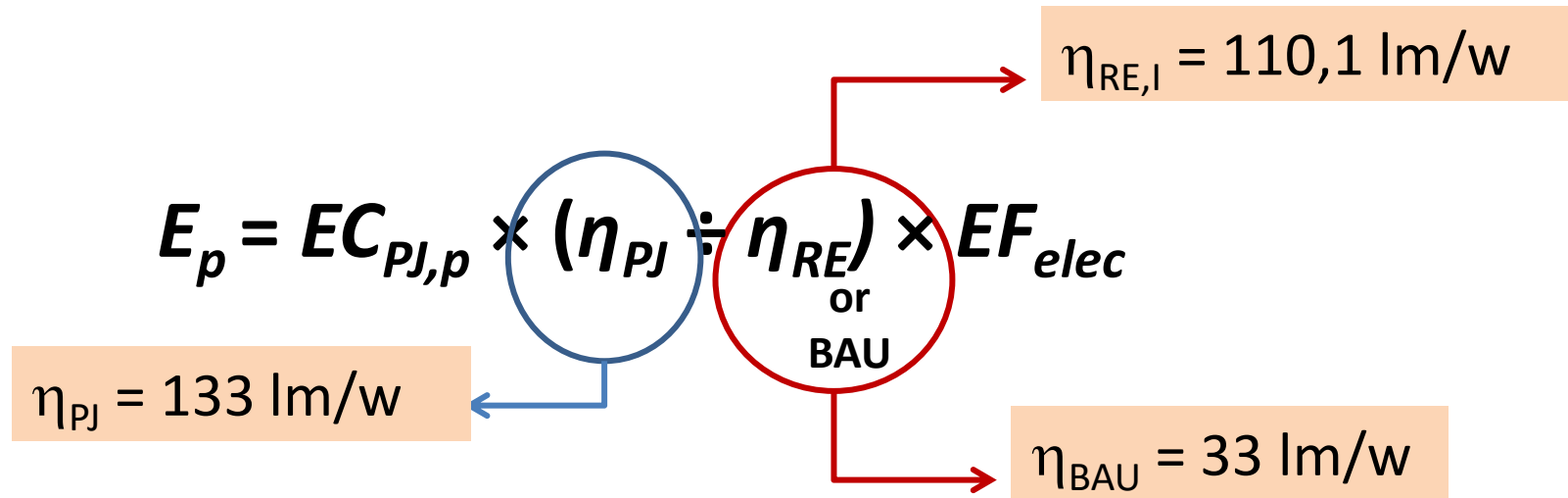
- The net emission reductions is designated for the Government of Indonesia
- JCM scheme put forward the conservativeness of their methodology
- **More conservative JCM methodologies = More net emission reductions**

Example of BAU-Reference- Project Scenario

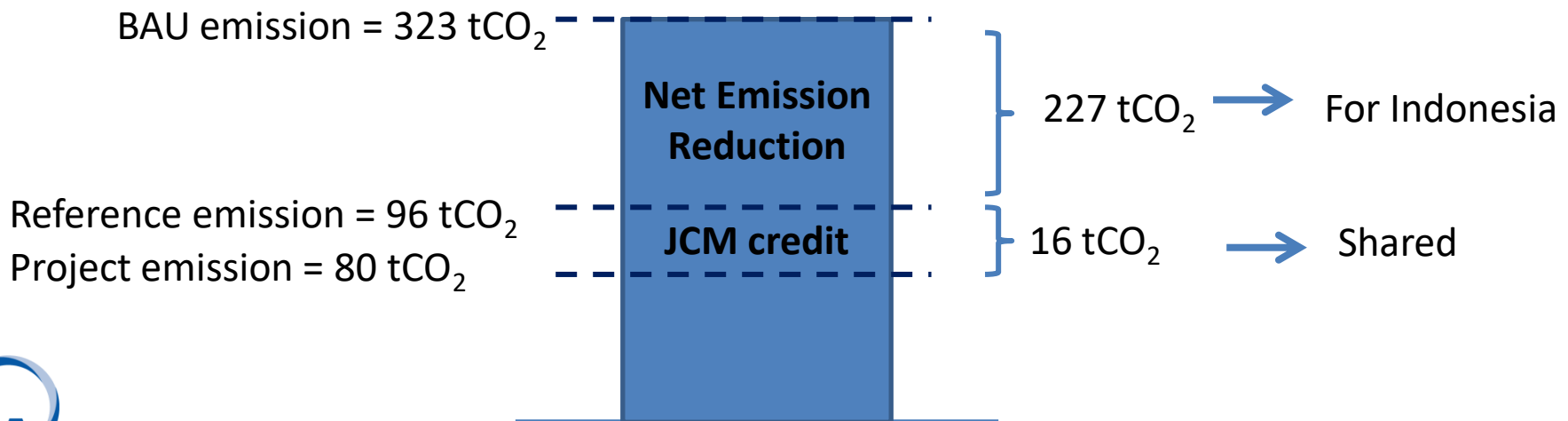
Methodology	BAU*	Reference	Project
Chiller (AM002)	Chiller with COP 5.0 (data from old chiller)	Centrifugal chiller available in the Indonesian market with COP equal to or less than 5.0 (survey)	High-efficiency centrifugal chiller with COP more than 6.0
LED lighting (AM005)	CFL with the lowest lighting performance with the value of 33 lumen/watt (according to regulation no. 18/2014 by MEMR)	Commercially available LED lighting in the Indonesian market based on survey, luminous efficiency approximately 110 lm/W (survey)	Energy efficient, straight type LED lighting with luminous efficiency of more than 120 lm/W

*Data is determined by CMEA-MOEF –JICA study on baseline emission

Calculation example utilizing ID_AM005



If EC of LEDs at a certain period p is = 100 MWh and EF = 0.8 tCO₂/MWh



Approved JCM Methodologies in Indonesia

01	Power Generation by Waste Heat Recovery in Cement Industry
02	Energy Saving by Introduction of High Efficiency Centrifugal Chiller
03	Installation of Energy-efficient Refrigerators Using Natural Refrigerant at Food Industry Cold Storage and Frozen Food Processing Plant
04	Installation of Inverter-Type Air Conditioning System for Cooling for Grocery Store
05	Installation of LED Lighting for Grocery Store
06	GHG emission reductions through optimization of refinery plant operation in Indonesia
07	GHG emission reductions through optimization of boiler operation in Indonesia
08	Installation of a separate type fridge-freezer showcase by using natural refrigerant for grocery store to reduce air conditioning load inside the store
09	Replacement of conventional burners with regenerative burners for aluminum holding furnaces
10	Introducing double-bundle modular electric heat pumps to a new building
11	Installation of energy saving air jet loom at textile factory
12	Solar PV
13	Installation of Tribrid Systems to mobile communication's Base Transceiver Stations

Opportunity and challenges in determining BAU utilizing existing JCM methodology

Opportunity:

- JCM already provide the concept on how to calculate
- Only default values which determine reference emission that should be changed

Challenges:

- Default values need to be determined according to national situation
- Few of the JCM methodologies are utilizing new technology, and determining the BAU cannot only by simply changing the default values



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Thank you! Terima kasih!

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