

Managing CDM Monitoring Activities

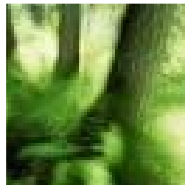
Supida Piwkhaw

CDM Monitoring Manager

Bionersis Services Asia



- Overview of Our Project Activities
- Our CDM Profile
- Process to Obtain CERs
- CER: What does it look like
- Scope of Verification
- Monitoring Activities in Various Stages of the Project
- Establishing an Implementation Strategies
- Data Flow Chart and Monitoring Organization
- Responsibilities of the Monitoring Team
- Criteria for Determination of Verification Frequency
- Our Challenge
- Q & A



Overview of Our Project Activities



KPS in Nakhon Pathom, Thailand

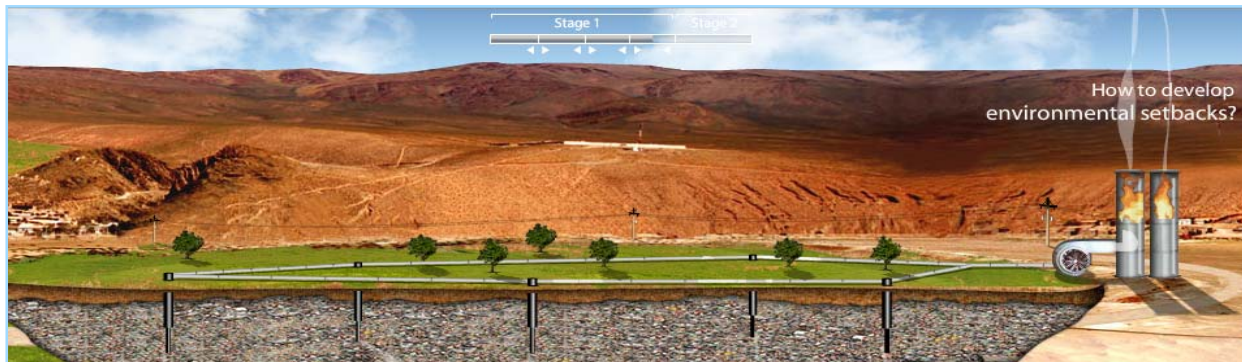


Overview of Our Project Activities (Cont.)

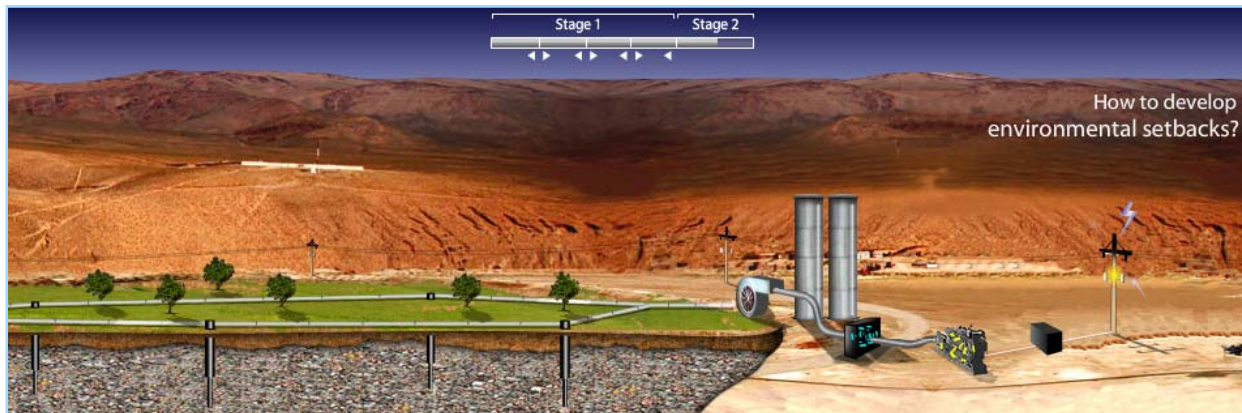


Two Phases of Project Development

Phase I: Biogas Capture and Flaring



Phase II: Electricity Generation





Gas Collection Network

Vertical Wells and Horizontal Trench



Biogas and Leachate Wells





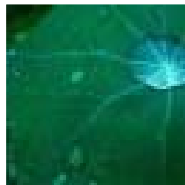
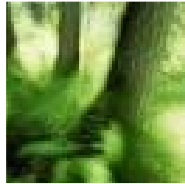
Degassing System

Extraction System



Combustion Unit





Our CDM profile



Verification Experience

- Hand on experience with ER verifications from over 8 sites
- Have been working successfully with multiple well known DOE(s)
- Big database of CARs and FARs being raised by various DOE(s) from different site settings
- We know what to expect from the DOE(s) and how to respond to their concerns/comments
- Comprehensive training of the monitoring team to prepare for ER verification from day 1 of operation.

Our CDM Profile (Cont.)



List of DOEs Bionersis Has Worked with

Validation

SGS

DNV

SQS

TUV-SUD

RINA

Verification

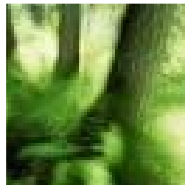
SGS

DNV

SQS

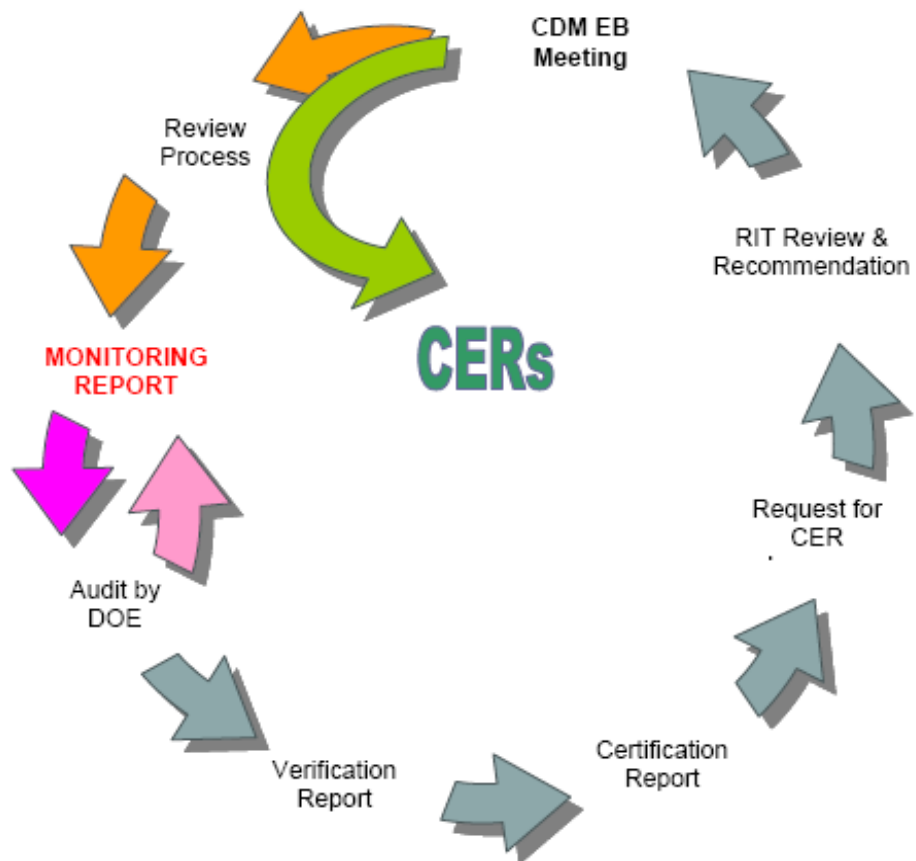
SIRIM-QAS

GL

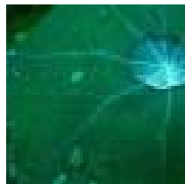
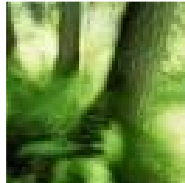


Process to Obtain CERs

Process to Obtain CERs



Source: http://cdmdna.emb.gov.ph/cdm/secured/uploads/CDM1803195061511016_GHG_Emission_Reduction_Monitoring_and_Reporting_Guideline.pdf



CER: what does it looks like...



Serial number of KP units *Below are images for illustrative purposes

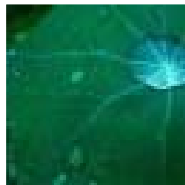
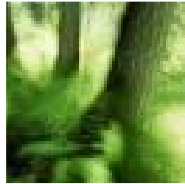
- ◆ Every t-CO₂ of KP units is given a unique serial number.
- ◆ Each KP unit shall be held in only one account in one registry at a given time.

[CMP/2005/9/Ad2, p28 para20]

Serial Number Identifiers

1	2	3	4	5	6	7	8	9	10	11
XX	1		000,000,000,000,001	999,999,999,999,999	01	01	1	0000001	1	XX/YY/ZZ

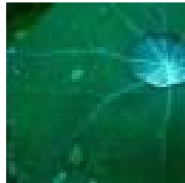
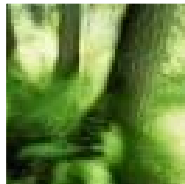
	Identifier	Range or Codes
1	Originating Registry	Two-letter country codes in ISO3166, as of 01 January 2005
2	Unit Type	1 = AAU, 2 = RMU, 3 = ERU converted from AAU, 4 = ERU converted from RMU, 5 = CER, 6 = tCER, 7 = ICER
3	Supplementary Unit Type	Blank for Kyoto-only Units, or as defined by STL (supplementary transaction log)
4	Unit Serial Block Start	Unique numeric values assigned by registry from 1 - 999,999,999,999,999
5	Unit Serial Block End	Unique numeric values assigned by registry from 1 - 999,999,999,999,999
6	Original Commitment Period	1 - 99
7	Applicable Commitment Period	1 - 99
8	LULUCF Activity	1 = Afforestation and reforestation, 2 = Deforestation, 3 = Forest management, 4 = Cropland management, 5 = Grazing land management, 6 = Revegetation
9	Project Identifier	Numeric value assigned by registry for Project, unique per originating registry. The Project Number is the combination of the Originating Registry and the Project Identifier.
10	Track	1 or 2
11	Expiry Date	Expiry Date for tCERs or ICERs



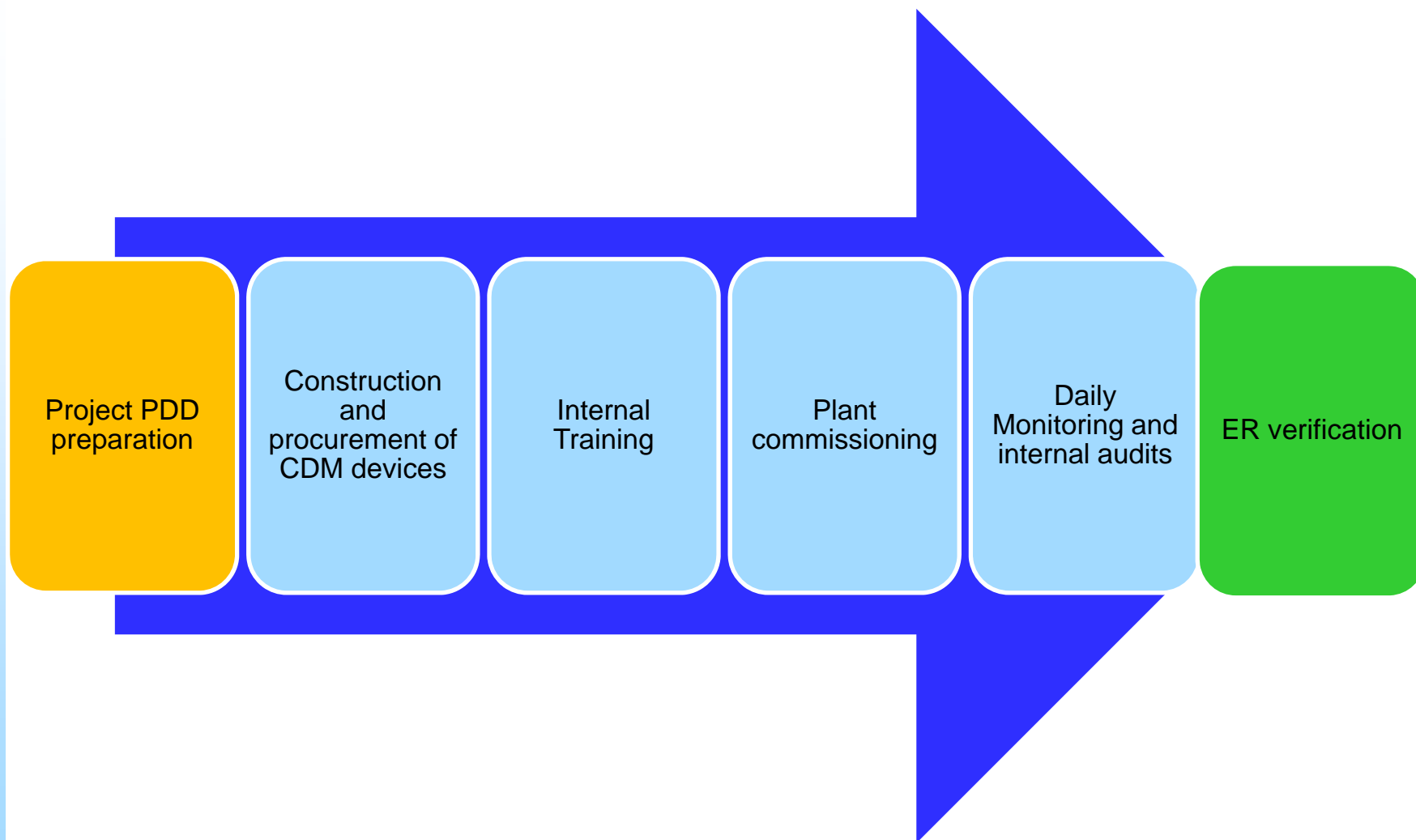
Scope of Verification

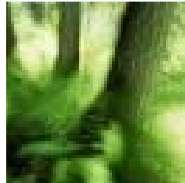


- Quality Assurance System
- Consistency with monitoring methodology
- Remaining issues, CARs, FARs from previous validation or verification
- Completeness of monitoring
- Adjustment Factors
- Accuracy of ER calculation



Monitoring Activities in Various Stages of the Project



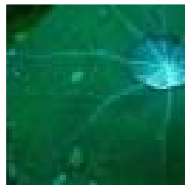
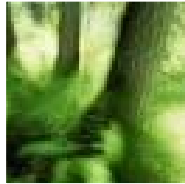


Establishing an Implementation Strategy



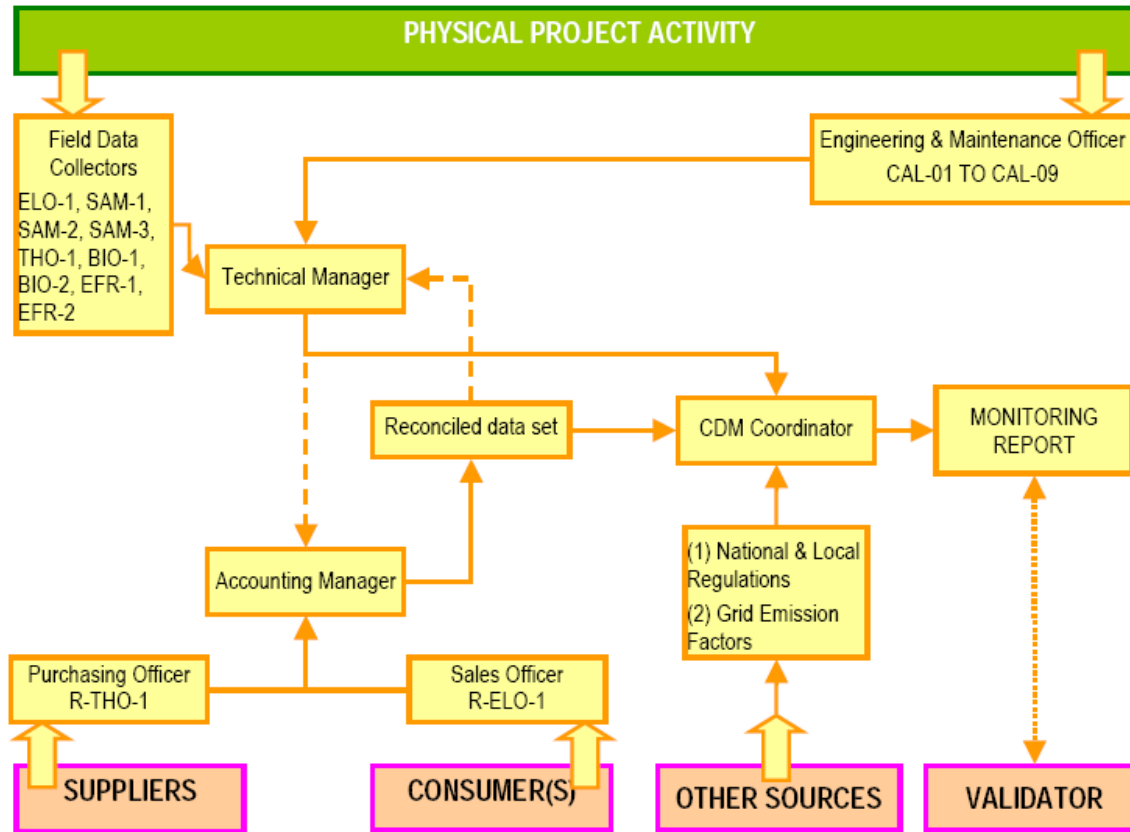
- **Data Collection.** Responsible personnel should be identified and clear instructions on data measurement, logging, and archiving are established.
- **Equipment Calibration.** The calibration procedure and frequency must be established clearly and be in compliance with the PDD.
- **Personal Trainings.** Necessary trainings should be carried out to ensure proper performance of the persons in charge.
- **Calculation and Reporting of ER.** The proper format of your ER report should be designed and readily available before project commissioning.
- **Data and Reports Maintenance.** Means of data archiving must be established to meet the project's obligation.

Note: Proper documentation of Standard Monitoring and Reporting Procedure can ensure certain credibility of your ER report



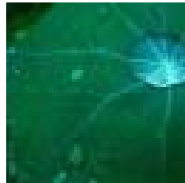
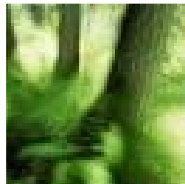
Monitoring Organisation

BIONERSIS Data Flow Chart and Monitoring Organization



Source: http://cdmdna.emb.gov.ph/cdm/secured/uploads/CDM1803195061511016_GHG_Emission_Reduction_Monitoring_and_Reporting_Guideline.pdf

Key success for internal audit



Responsibilities of the Monitoring Team

Monitoring Manager

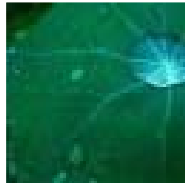
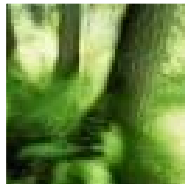


- Update relevant project activities and ensure proper execution of monitoring and reporting procedures
- Review the production data (to monitor any signs of problem)
- Calculate emission reduction of the project
- Communicate the event records with site operator
- Verify the new CDM documents and update the CDM database with new information
- Check availability of CDM spare parts
- Conduct CDM training to site operators and
- Liaison with the DOE during the verification



Site Operator

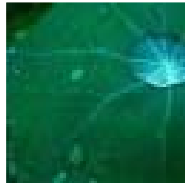
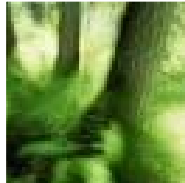
- Perform maintenance of CDM equipments
- Replace CDM equipment or standard gas cylinders if necessary
- Calibrate the gas sensors
- Ensure that the plant is operated in compliance with safety standards
- Record consumption of the project
- Update the logbook with on-site events



Criteria for Determination of Verification Frequency



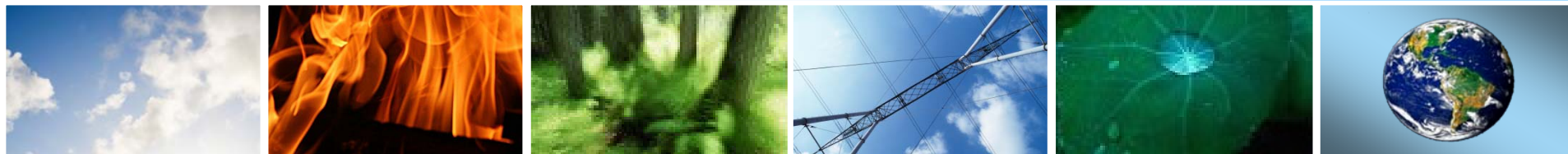
- Availability of the monitoring personnel
- Operational schedule
- Amount of ERs
- Financial needs



Our Challenge



“Our challenge is no longer to get ERs issued,
but rather to get **all ERs certified**
and to get that done **the soonest**”



Questions??

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