PILOT PROGRAMME FOR SUPPORTING UP-SCALED CLIMATE CHANGE MITIGATION ACTION IN VIETNAM'S CEMENT SECTOR

Readiness Plan for the Cement Sector In Viet Nam

Findings, recommendations and next steps

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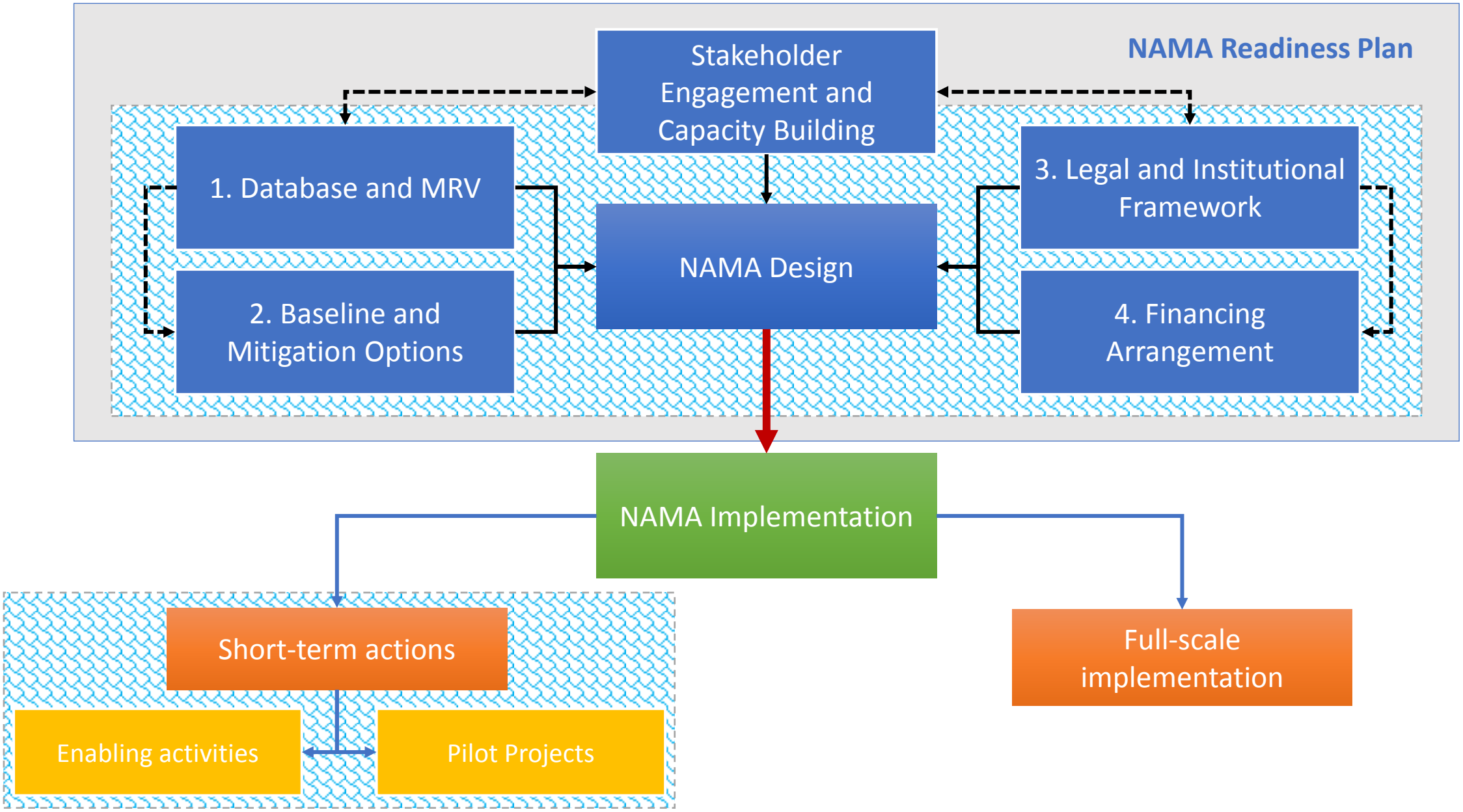
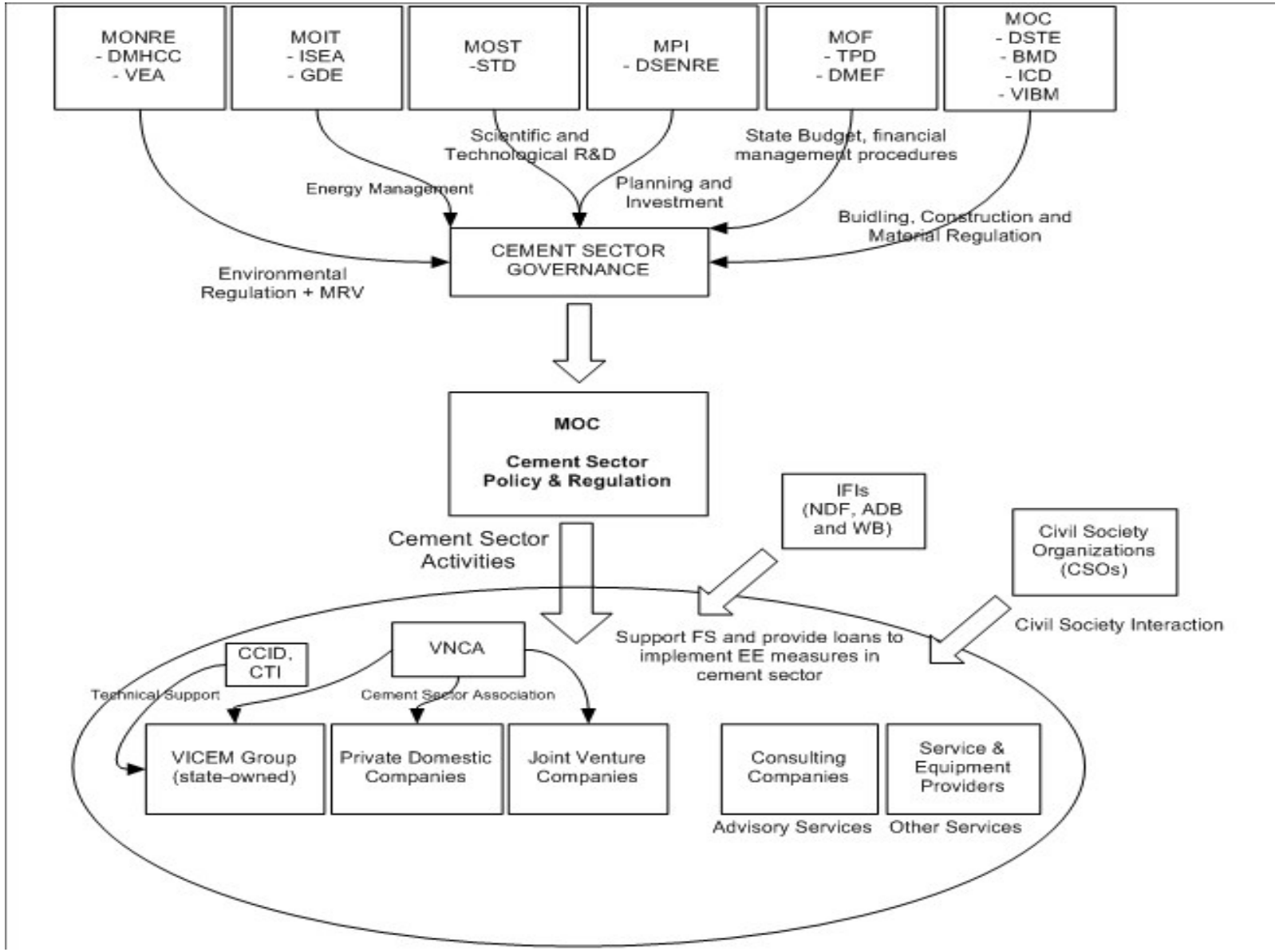
Objectives

Objectives	Description
Long term	Strengthening Vietnam's capacity to develop and implement an appropriate GHG Mitigation Action Plan
Medium term	The Pilot Program will help Vietnam to prepare and implement a full-scale NAMA in the cement sector Attract international climate finance through the carbon market and other support mechanisms (also national) 2 years programme


NAMA Readiness Plan
Stakeholder Engagement and Capacity Building
1. Database and MRV
2. Baseline and Mitigation Options
NAMA Design
3. Legal and Institutional Framework
4. Financing Arrangement
NAMA Implementation
Short-term actions
Enabling activities
Pilot Projects
Full-scale implementation

Stakeholder map – Cement sector



Viet Nam Cement database - Overview

First effort to establish a sector database for the cement sector in Vietnam

- Excel-based database as a simplified version of the CSI MRV system, compatible with the current international industry best practice and domestic context
- Data collections are from two sources:
  - Top-down: Current Master Plan for list of rotary kiln cement plants with specific capacity and location
  - Bottom-up: Sectoral data collection via questionnaire and site visits
    - General plant information
    - Cinker and cement production
    - Mineral components (MIC) in cement production
    - Energy consumptions: fossil fuels and electricity; alternative fuels; waste heat use
    - Calculate power balance and KPIs
    - Calculate CO2 emissions from calcination and energy use

Viet Nam cement database – Current status

- Data inputs and calculated results from 47 cement plants accounting for 85% of total of 55 rotary kiln cement plants in operation

Part I : Detailed calculation results of Key Performance Indicators for each plant

Table 1: Detailed calculation results of Key Performance Indicators for each plant

No.	Variable	1. Total clinker production	2. Total cementitious product production	3. Total equivalent cement production												
		ton of clinker	ton of cementitious product	ton of cement equivalent												
		Figure 12: Gross CO2 emissons per ton of clinker in 2013	Figure 13: Gross CO2 emissons per ton of cement (eq.) in 2013											2011	2012	2013
1	Binh Phuoc													,392	1,892,046	1,948,357
2	Bac Giang													appl.	n. appl.	308,787
3	But Son													,288	2,876,193	3,139,162
4	FICO Tay Ninh													,818	1,615,085	1,738,882
5	Ha Long													,033	1,280,729	1,618,448
6	Hai Phong													,961	1,357,238	1,427,305
7	Hoang Long													,887	324,002	346,771
8	Hoang Thach													,946	3,691,110	4,062,806
9	Luks													,613	1,324,114	1,100,073
10	Nghi Son													,959	4,028,219	4,186,020
11	Phuc Son													,628	4,009,043	4,049,619
12	Quan Trieu													,966	668,353	371,494
13	Tan Quang													,198	612,874	700,179
14	Tuyen Quang													,187	254,936	272,959
15	Xuan Thanh													appl.	316,345	1,066,462
16	Yen Binh													,709	472,052	717,950
17	Duyen Ha													,224	2,600,680	2,784,205
18	Vinh Son													,679	315,159	428,625
19	Thanh Cong 3													appl.	n. appl.	n. appl.
20	La Hien													,437	670,767	639,024
21	Quang Son													,958	804,004	1,370,718
22	Lang Son													appl.	107,466	214,939
23	Dong Banh													,315	142,424	610,566
24	Vissai 1													,349	3,164,515	2,954,265
25	Sai Son													appl.	n. appl.	n. appl.
26	Dien Bien													,054	219,255	352,691
27	X18													appl.	n. appl.	n. appl.
28	Dong Lam													appl.	n. appl.	n. appl.
29	Phu Tan													appl.	n. appl.	n. appl.
30	Tam Diep													,224	1,997,792	1,678,035
31	Bim Son													,108	3,754,551	3,486,682
32	Hoang Mai													,862	1,548,564	1,535,200
33	Van Ninh													appl.	n. appl.	695,558
34	Kien Luong													,230	1,903,219	2,845,784
35	Vissai Ha Nam													,894	1,142,192	1,228,621
36																
37																
56																
	Sum and Aritmetic average	15,215,910	27,573,428	34,357,110	36,546,357	40,768,659	18,417,692	32,356,352	40,162,708	42,849,694	47,937,312	18,572,462	32,380,234	39,895,918	43,092,927	47,880,187
	Sum and Weighted average	15,215,910	27,573,428	34,357,110	36,546,357	40,768,659	18,417,692	32,356,352	40,162,708	42,849,694	47,937,312	18,572,462	32,380,234	39,895,918	43,092,927	47,880,187
	Standard deviation	643,642	923,789	1,058,164	1,051,243	1,039,015	783,986	1,091,603	1,239,782	1,232,749	1,219,410	702,592	1,009,498	1,265,822	1,277,722	1,259,977

Figure 16: Clinker to cementitious ratio in 2013

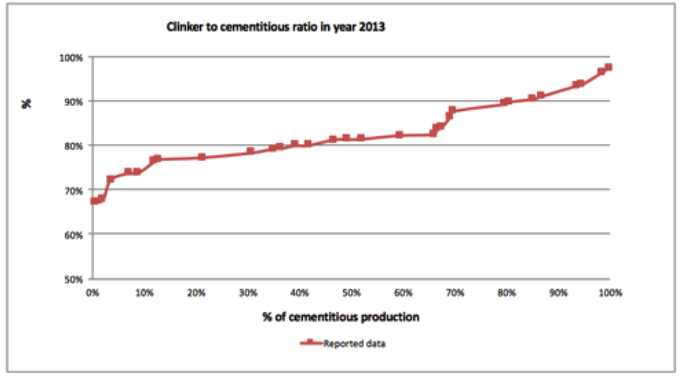


Figure 17: Specific electricity consumption of clinker production in 2013

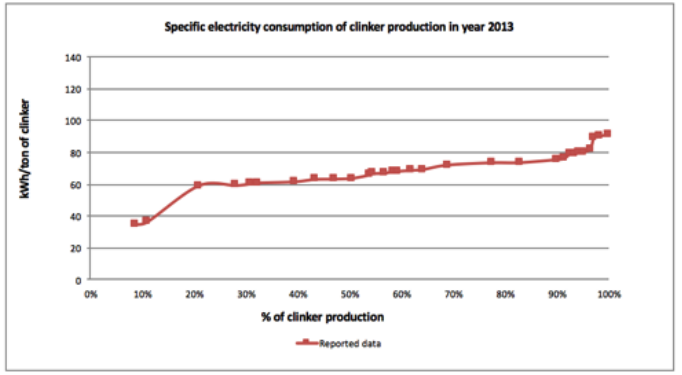
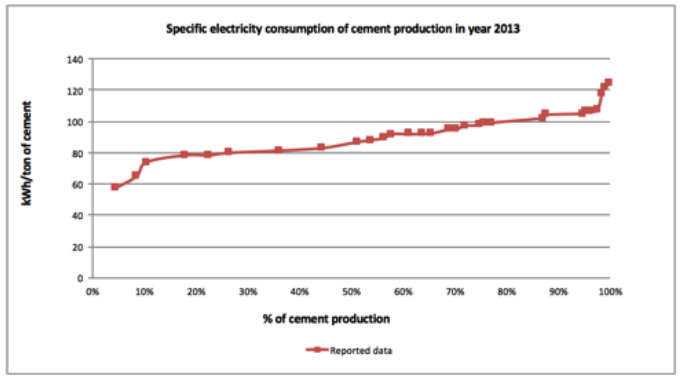


Figure 18: Specific electricity consumption of cement production in 2013



MRV in Cement sector - Current status

- No consistent MRV system has been established and operated for the cement sector in Viet Nam; hence no MRV institutional arrangement existed
- The MRV system for the NAMA in the cement sector in Viet Nam is structured into two sub-components including:
  - MRV of GHG emissions (and emission reductions)
  - MRV of non-GHG impacts (including co-benefits and support)
- And it is divided into two levels, namely (1) installation (plant) level and (2) sector level.
- Application of the MRV system at a sector level is a new management practice for both the NAMA operating entity (MOC) and other relevant authorities

MRV at Plant level - Current status

- MRV system of GHG emissions at a cement plant level is based on the already existing practices at almost all cement plants in Viet Nam
- Measurement
  - M of 29 indicators (similar to CSI indicators) on energy consumption and CO2 emissions is current practiced as part of regular measurement activities in cement plants
  - The procedures and frequency for record and data archive are varied by cement plants
  - Challenge is to increase of the accuracy of data monitored. Additional installation of direct measurement devices and improvement in data management practice is required to ensure high data quality.
- Reporting of data measured is mainly limited within a cement plant for management purposes
- Verification at a plant level is limited to the internal QA/QC, not yet involving any independent third party

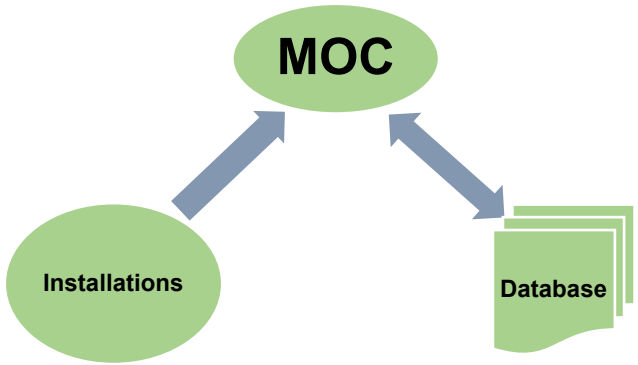
MRV of non-GHG impacts

- Designed MRV of co-benefits covers a wide range including four major groups: economic, social, environmental, technological
  - 10 parameters shall be monitored at sector-level
  - 7 parameters monitored at plant-level
- MRV system of support shall be designed according to the specific requirements of the donors
- Importance of non-GHG impacts is seen differently depending on the stakeholder.
- The selection of which non-GHG impacts to be MRV-ed depends on the consensus of the national authorities and international donors, and the level of willingness, commitment of cement installations as well as the resources available to do MRV

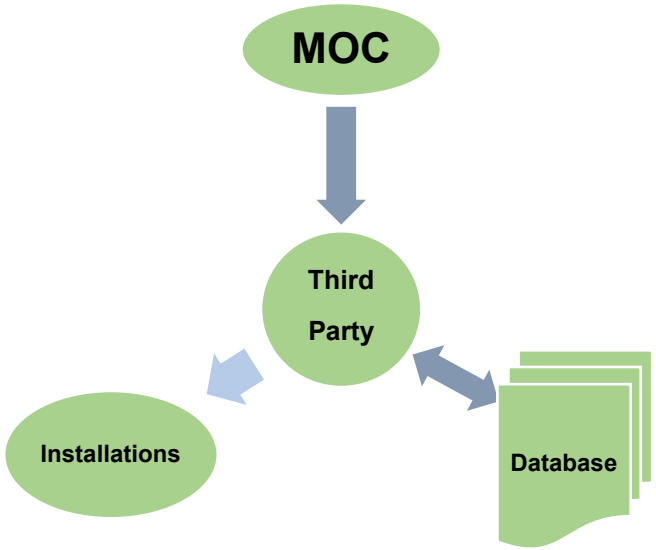
Database and MRV – Recommendations

- The database is useful for policy makers to refer to during the development of strategies and policies for GHG mitigation and energy consumptions in cement sector, thus should be periodically updated during the NAMA development and implementation
- In a long term for the Readiness Stage (after ending this Pilot Project), the MOC should decide and develop an appropriate Option for data upgrading and management
- Highest priority is to standardize the MRV system and formally regulate the implementation of this MRV system at the plant level
  - A new regulation on mandatory GHG reporting should be developed and adopted
  - To include GHG emission and emission reduction monitoring provisions in the revision of the current cement sector Master Plan
- To address the major gap in data needs and practices of MRV of non-GHG emissions at the sector level, MOC should take the leading role to propose a practice on designing and implementing the MRV at the sector level.

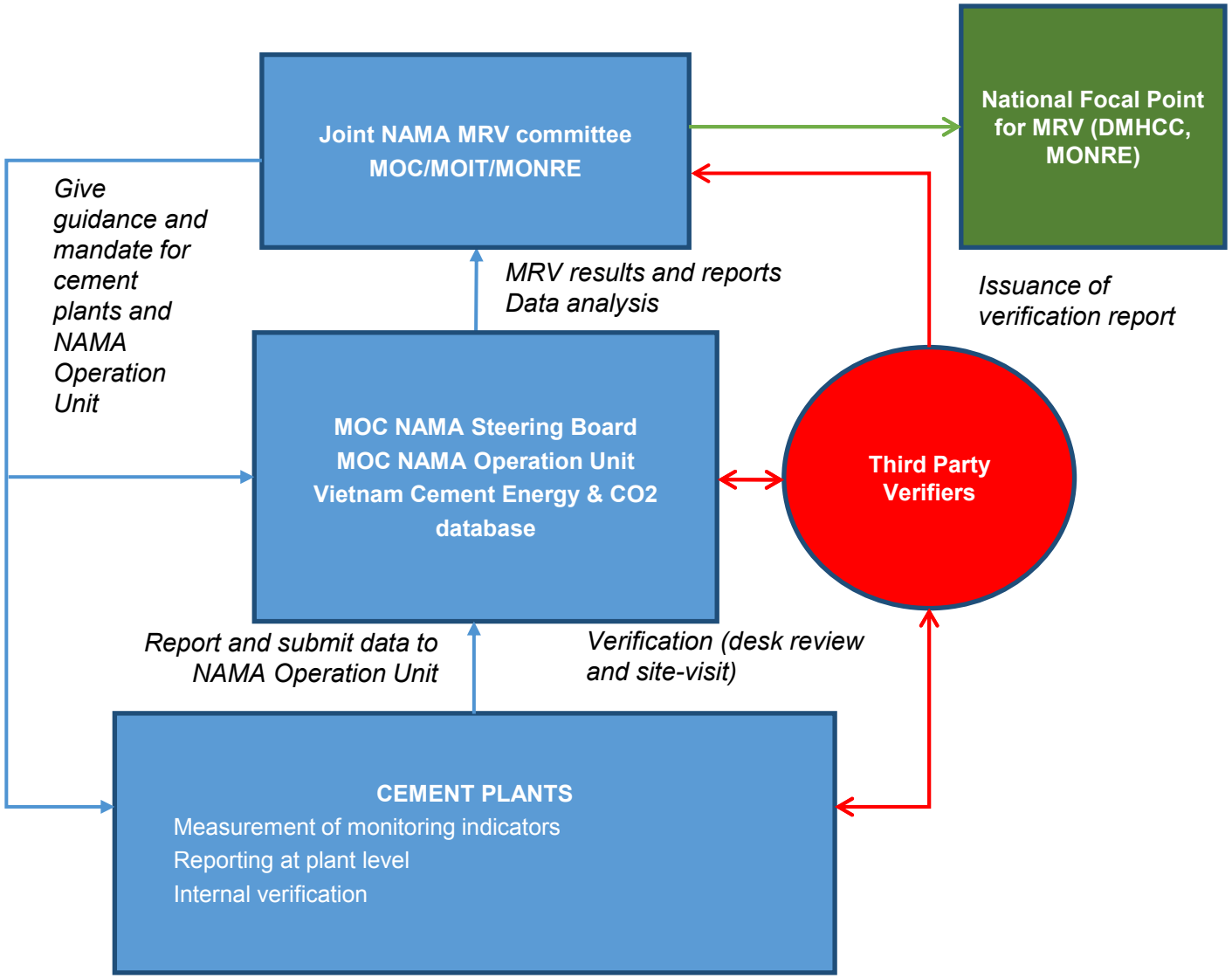
Suggestions on MRV Institutional Arrangement



Option 1: The database is managed by MOC

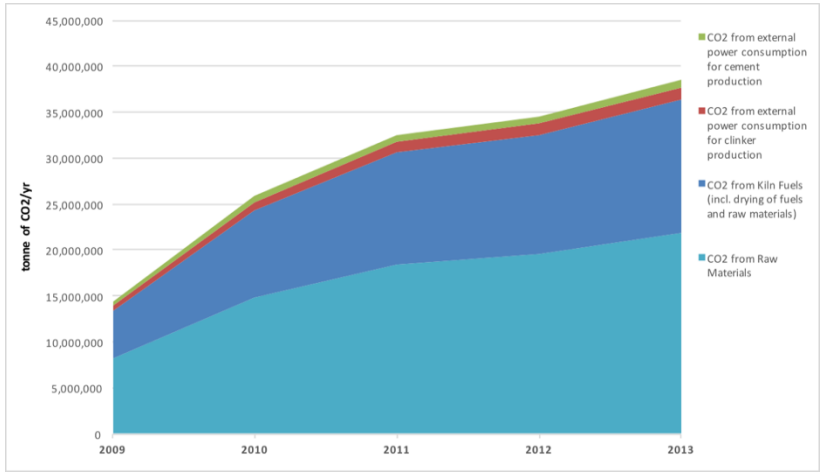


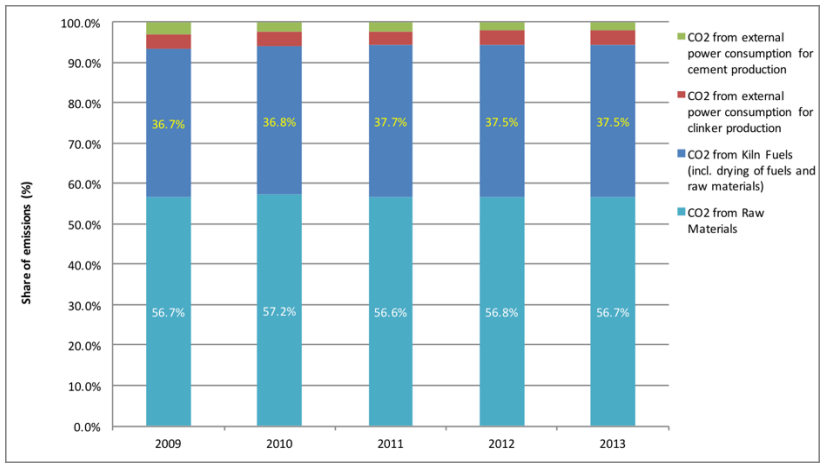
Option 2: Data collection and management by a Third Party

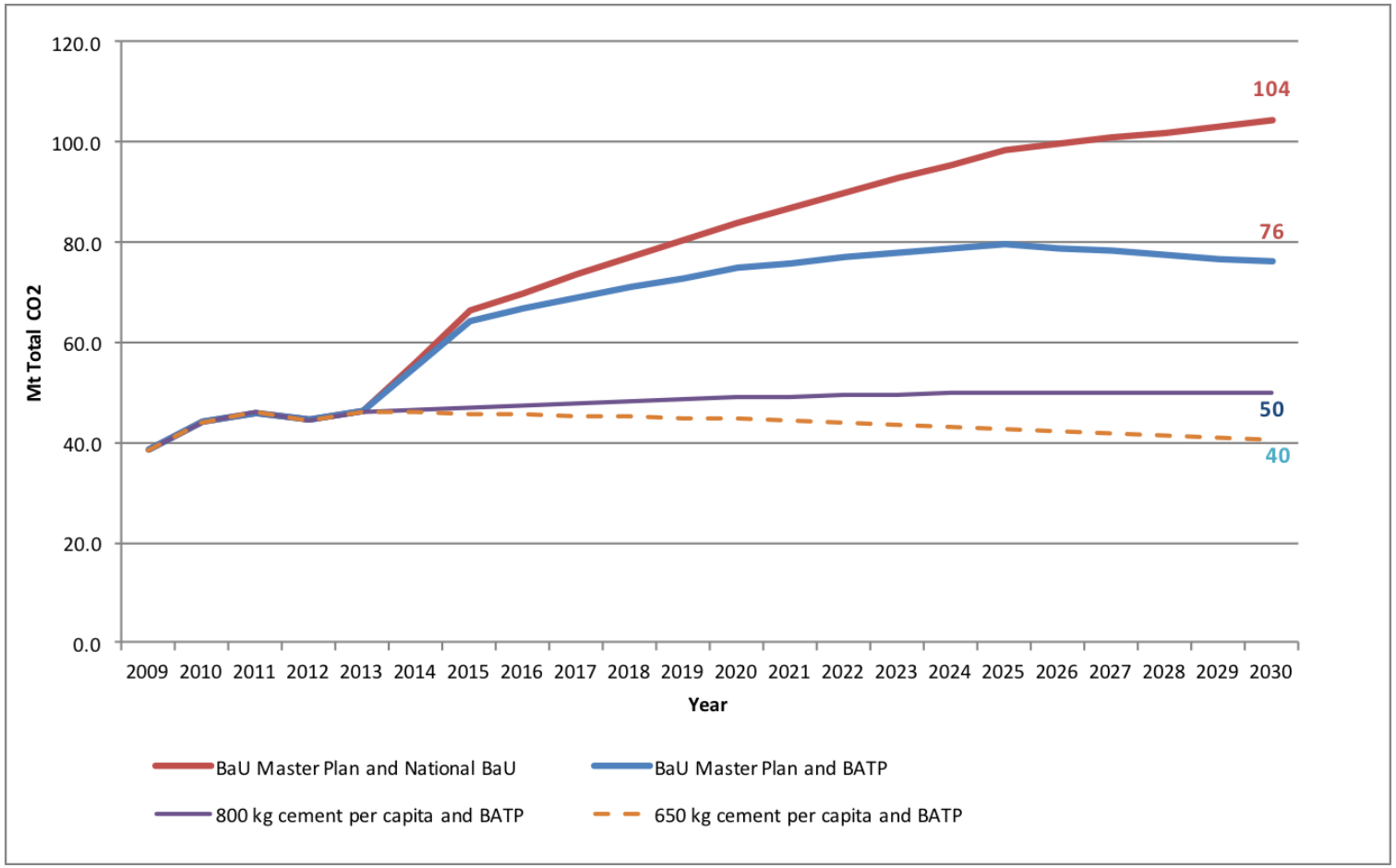


Historical trend analysis and scenario development

- Total emissions from cement sector at 4.6 Mt CO2 in 1995 and 46.2 Mt CO2 in 2013
- 18 different scenarios have been considered, with four scenarios were selected for mitigation option analysis





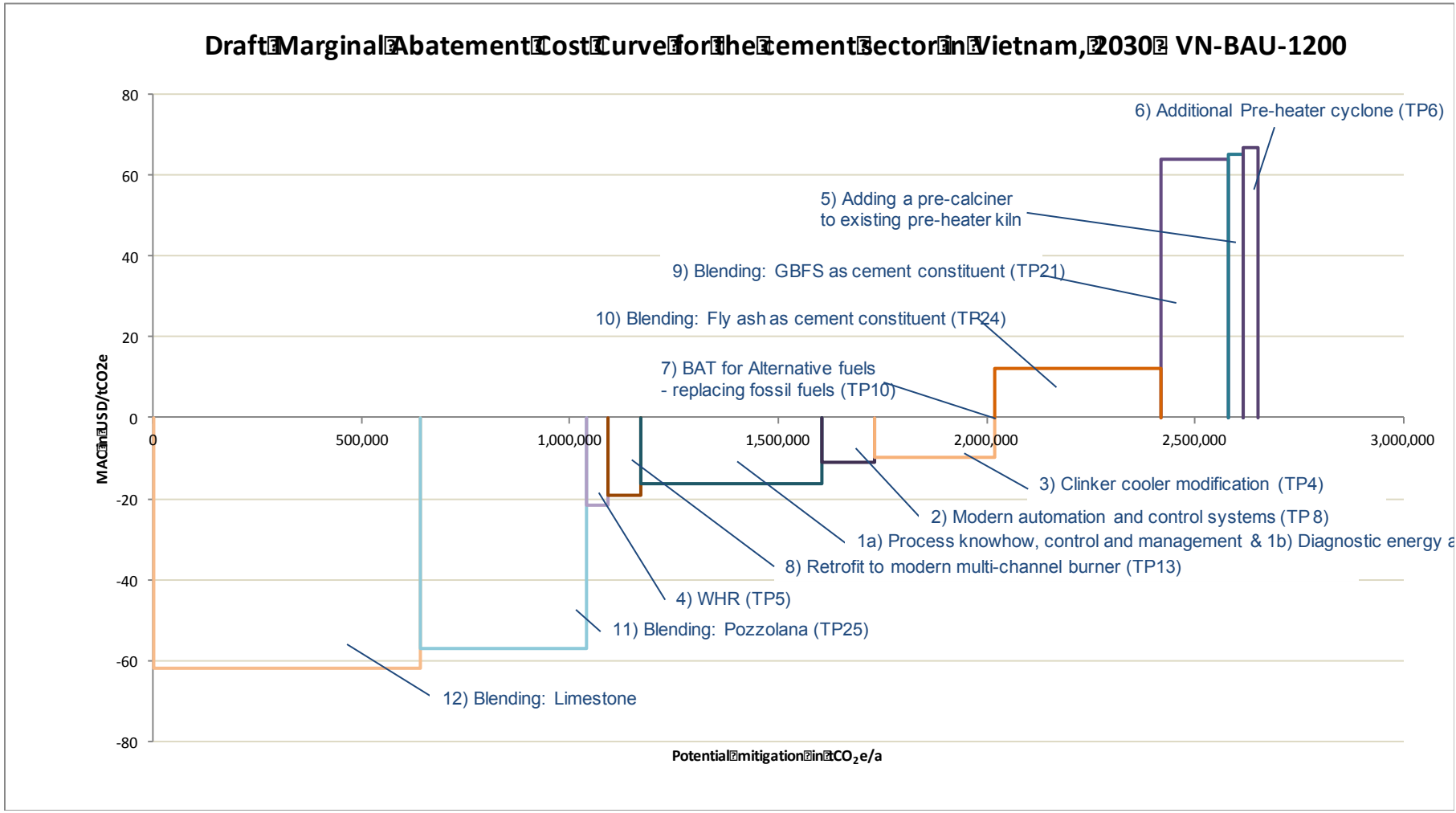


Assumptions made for scenario development

KPI	Unit	Historical			VN-BAU-1200		BATP-1200		BATP-800/650	
		2009	2010	2013	2020	2030	2020	2030	2020	2030
Thermal energy	MJ/ton clinker	3630	3610	3700	3600	3600	3600	3400	3550	3300
Thermal energy improvement	*% change (1) from 2013*				*-3%*	*-3%*	*-3%*	*-8%*	*-4%*	*-11%*
AF-TSR	%	0	0	0	0	0	12	28	12	28
Clinker Factor	% cli/cem	82	83.7	83	80	80	77	69	77	69
EP/clinker	kWh/t cli	58	59	60	60	60	60	60	0	0
EP/cement	kWh/t cem	93	89	85	84	80	84	80	85	85
Gross CO2/clinker	kg CO2/t cli	880	880	890	870	870	850	805	850	805
Net CO2/clinker	*kg CO2/t cli*	*880*	*880*	*890*	*870*	*870*	*830*	*755*	*830*	*755*
Gross CO2/clinker improvement	*% change from 2013*				*-2%*	*-2%*			*-4%*	*-10%*
Gross CO2/cement	kg CO2/t cem	725	740	740	700	700	665	555	665	555
Net CO2/cement	kg CO2/t cem	725	740	740	700	700	650	520	650	520
Gross CO2/cement improvement	*% change from 2013*				*-5%*	*-5%*			*-10%*	*-25%*

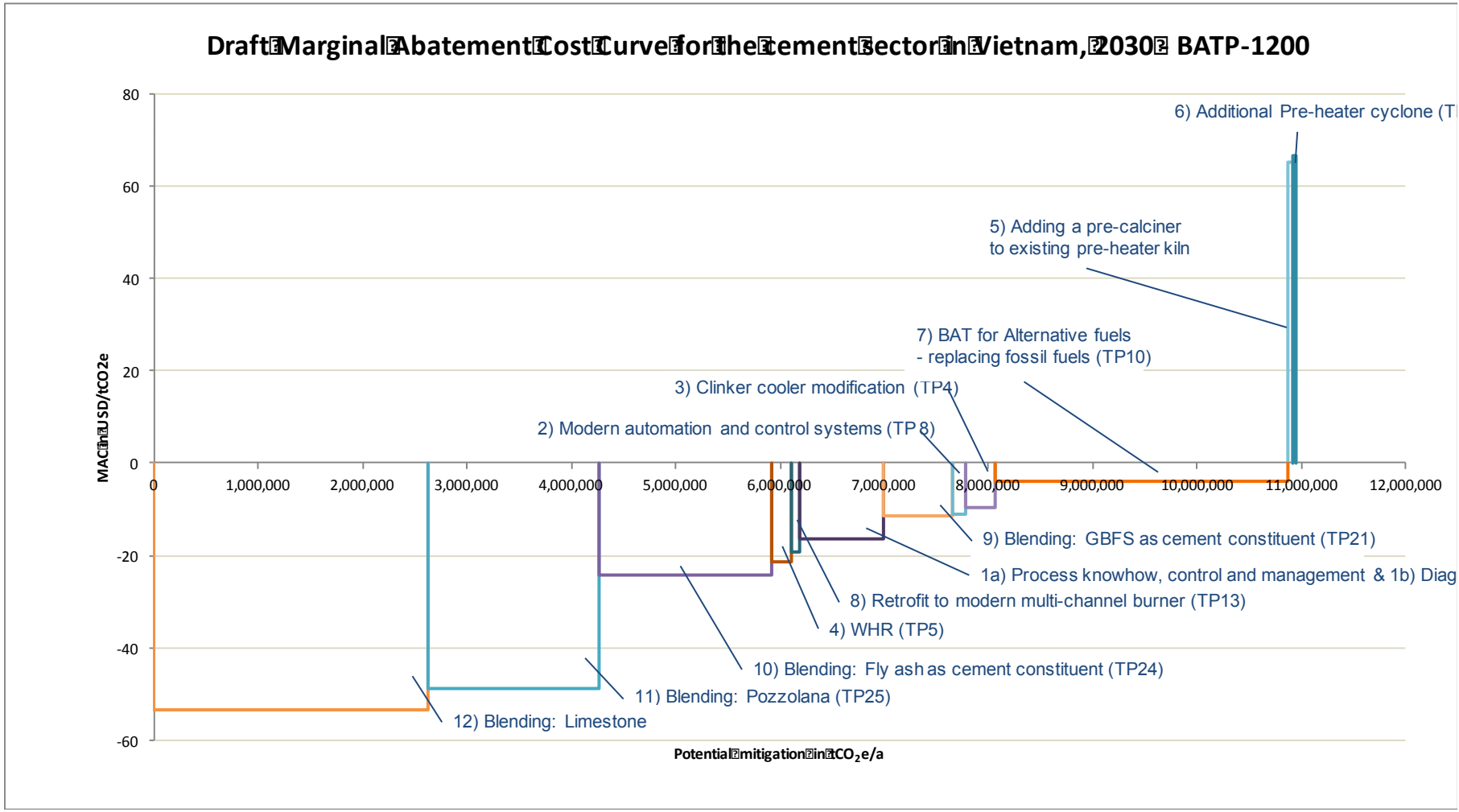
Identified mitigation options (1)

- Under business-as-usual following Master Plan 1488:
  - Blending: limestone, pozzolana
  - WHR
  - Multichannel burner
  - Enhancing process and energy management
- Mitigation potential: 2.65 million tCO2/y
- Initial investment needed: 1.16 billion USD



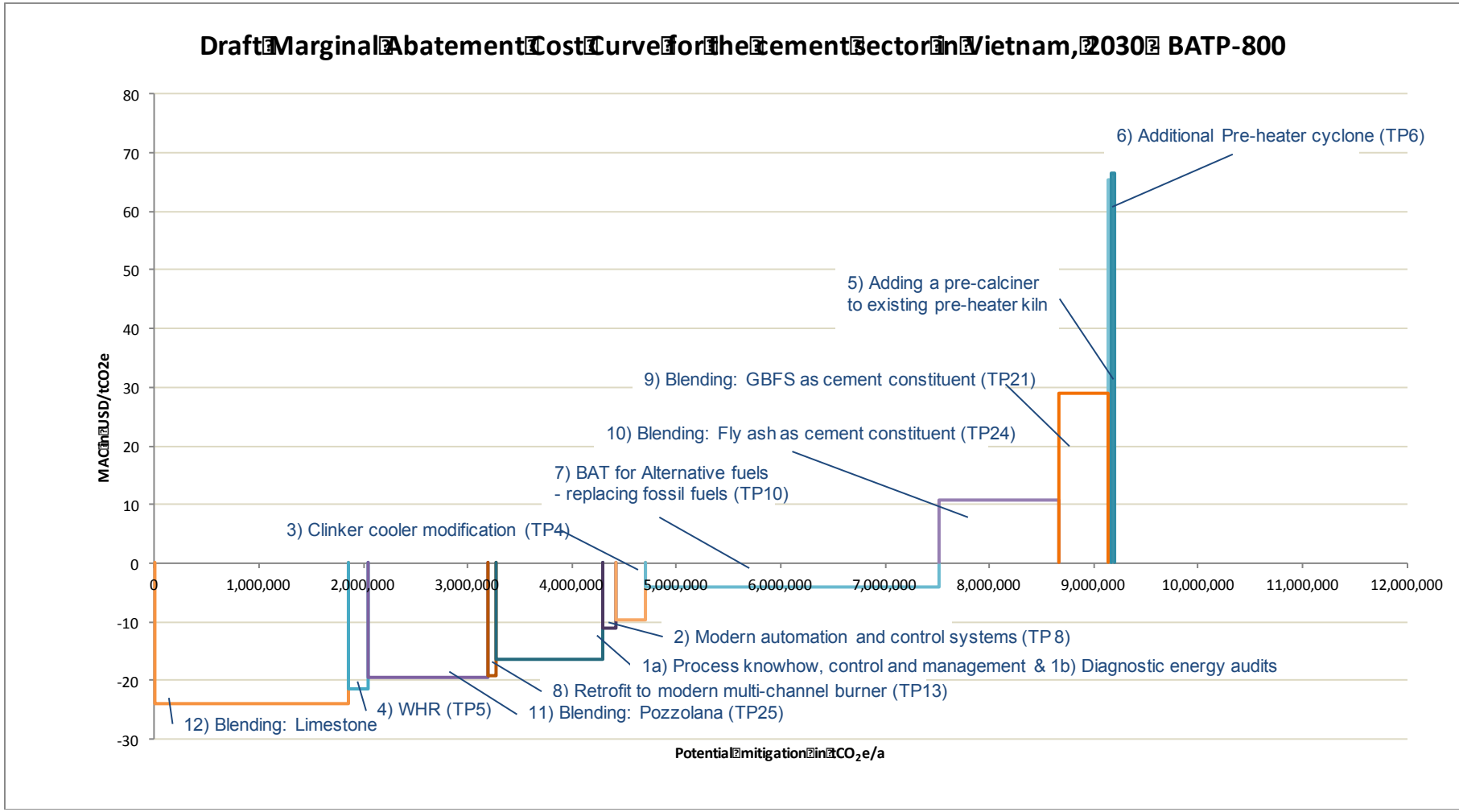
Identified mitigation options (2)

- With BATP efforts while maintaining Master Plan 1488:
  - Blending: limestone, pozzolana, fly ash, slag
  - WHR
  - Multichannel burner
  - Enhancing process and energy management
- Mitigation potential: 10.95 million tCO2/y
- Initial investment needed: 1.81 billion USD



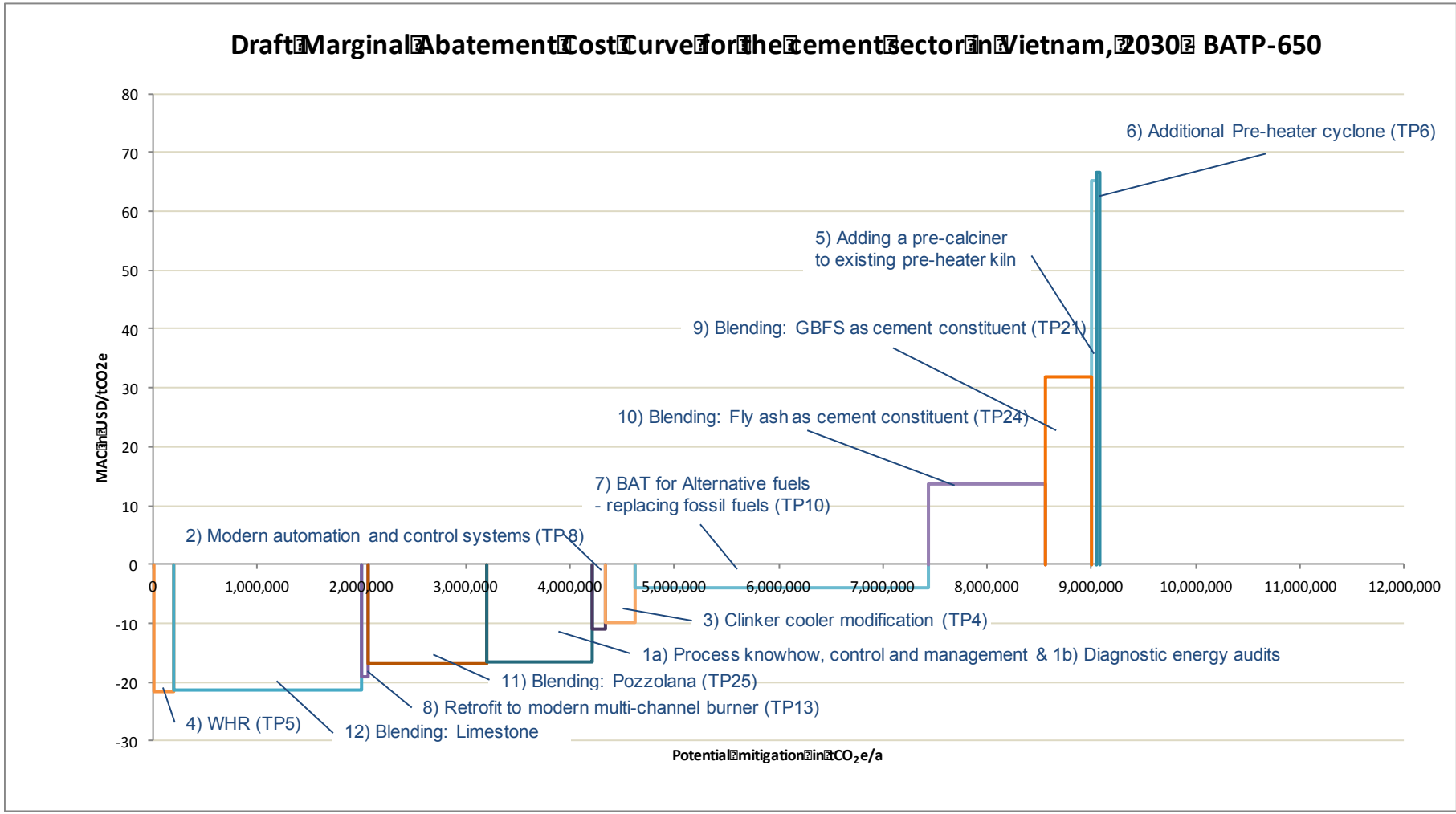
Identified mitigation options (3)

- With BATP efforts while reducing to 800 kg cement/capita:
  - Blending: limestone, pozzolana
  - WHR
  - Multichannel burner
  - Enhancing process and energy management
- Mitigation potential: 9.21 million tCO2/y (without avoided emissions)
- Initial investment needed: 1.81 billion USD



Identified mitigation options (4)

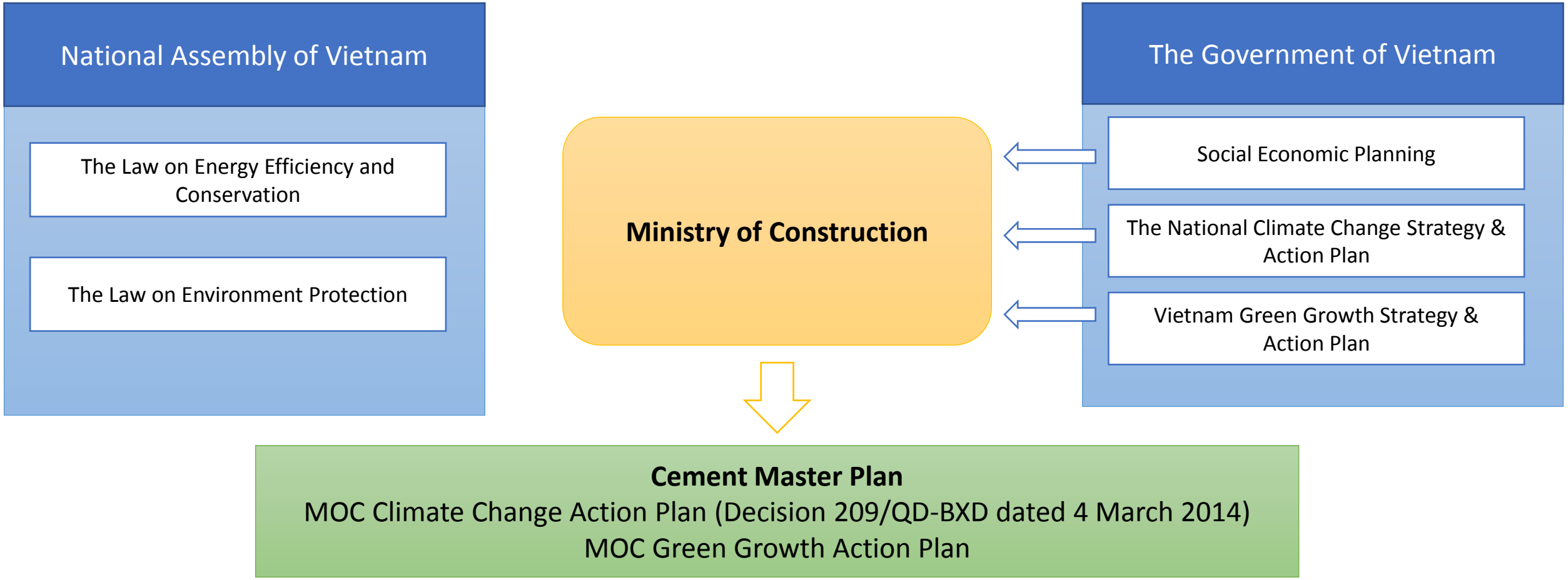
- With BATP efforts while reducing to 650 kg cement/capita:
  - WHR
  - Blending: limestone, pozzolana
  - Multichannel burner
  - Enhancing process and energy management
- Mitigation potential: 9.08 million tCO2/y (without avoided emissions)
- Initial investment needed: 1.8 billion USD



MAC analyses for selected mitigation actions

Category	Sub-category	VN-BaU-1200		BATP-1200		BATP-800		BATP-650	
		USD/ tCO_2	$MtCO_2$/ year	USD/ tCO_2	$MtCO_2$/ year	USD/ tCO_2	$MtCO_2$/ year	USD/ tCO_2	$MtCO_2$/ Year
Improving thermal energy efficiency of clinker production	1a) Process knowhow, control and management & 1b) Diagnostic energy audits	-16	0.44	-16	0.81	-17	1.02	-17	1.02
	2) Modern automation and control systems	-11	0.12	-11	0.12	-11	0.12	-11	0.12
	3) Clinker cooler modification	-10	0.29	-10	0.29	-10	0.29	-10	0.29
	4) Waste heat recovery (WHR)	-22	0.05	-22	0.19	-22	0.19	-22	0.19
	5) Adding a pre-calciner to existing pre-heater kiln	65	0.04	65	0.04	65	0.04	65	0.04
	6) Additional Pre-heater cyclone	19	0.09	29	0.09	19	0.09	19	0.09
Use of alternative fuels	7) BAT for Alternative fuels - replacing fossil fuels	-	-	-4	2.81	-4	2.81	-4	2.81
	8) Retrofit to modern multi-channel burner	-11	0.14	-11	0.14	-11	0.14	-11	0.14
Reducing clinker content in cement	9) Blending: GBFS as cement constituent	64	0.16	-12	0.66	30	0.46	32	0.45
	10) Blending: Fly ash as cement constituent	12	0.40	-24	1.64	11	1.15	14	1.12
	11) Blending: Pozzolana	-57	0.40	-49	1.64	-19	1.15	-17	1.12
	12) Blending: Limestone	-62	0.64	-53	2.63	-24	1.84	-21	1.80
Sub-total			2.76		11.06		9.29		9.19
Avoided CO_2 emissions from avoided clinker capacity (650/800 kg/inh/y vs. 1,200 kg/inh/y)			0		0		Up to 33		Up to 44
Total			**2.76**		**11.06**		**42.3**		**53.2**

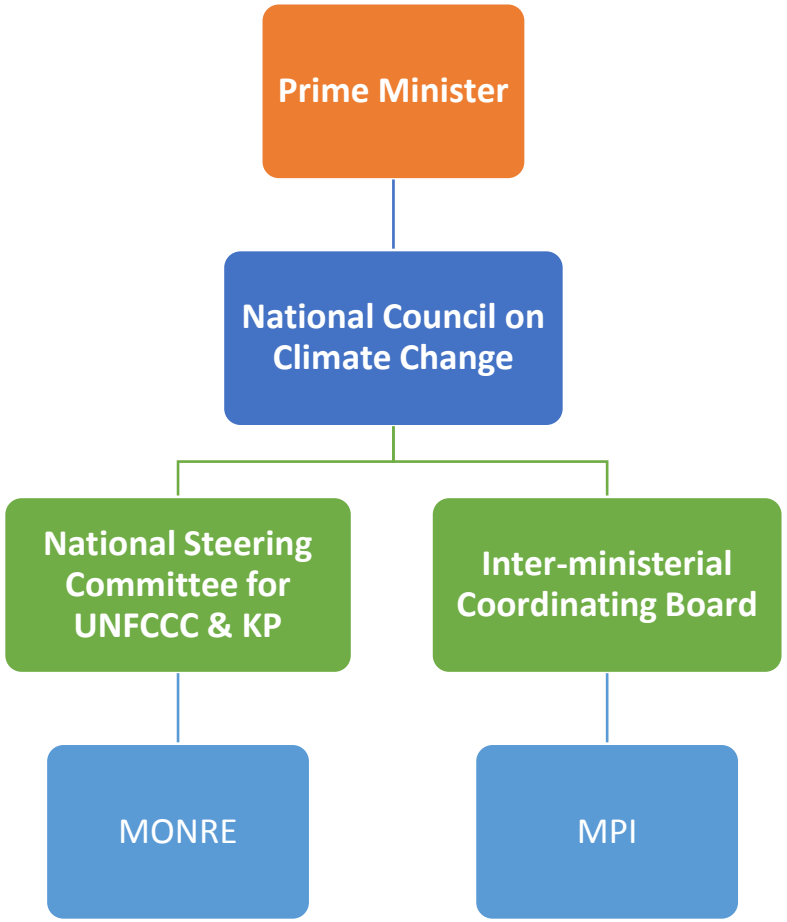
Current NAMA related legal framework for Vietnam cement sector



Insufficient enforcement mechanism in cement sector

- Lack of incentives for mitigation actions in cement sector
- Optimize coordination between MOC and other ministries regarding energy and GHG emission data

Current NAMA related Institutional framework for Vietnam cement sector



MONRE

- MRV system and NAMAs supporting framework
- Institutional arrangements for coordination of NAMAs

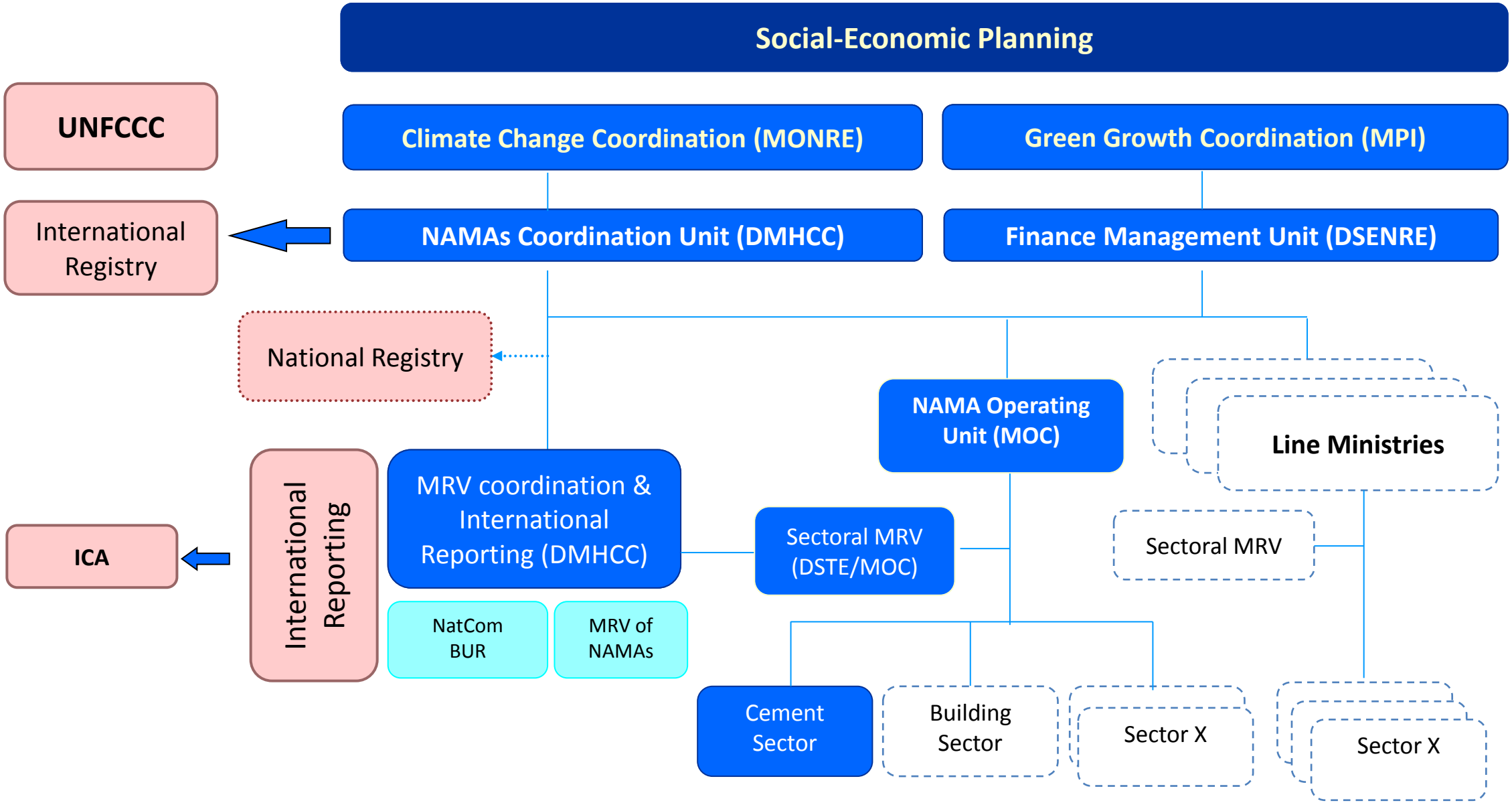
MPI

- National Designated Authority for Green Climate Fund
- Approve NAMA project/program and coordinate the communication

Line ministries and Provinces

- Responsible for developing their own GHG reduction programs
- Incorporate into sector strategies/action plans/social-economic planning

Recommended NAMA Institutional arrangement



Recommended NAMA related Institutional framework

NAMA institution	Responsible authority	Responsibilities
Climate Change Coordination	**MONRE**	Establish the national climate change policy Accountability for implementation of CC strategies and accountable to National Climate Change Committee
Green Growth Coordination	**MPI**	Establish the national green growth strategy Accountability for implementation of GG strategy and accountable to the Prime Minister
NAMAs coordinating unit	**MONRE**	UNFCCC focal point for NAMA Accountability for BURs and INDC reporting Approve NAMA proposals
MRV Coordination and International reporting	**MONRE**	Development of guidelines for sectorial MRV (basically Who/What/When/How) Coordinating MRV NAMAs from line ministries and process to international reporting Accountability for INDC
Climate Finance Coordination Unit	**MPI**	Evaluate the NAMAs to ensure their consistency with national policy and international requirements Mobilize funds and financial resources for NAMAs Coordinate various financial resources for NAMAs
State budget and finance management unit	**MOF**	Manage the state budget financial management procedure
NAMA Operating Unit	**Line ministries**	Accountability for NAMA design and NAMA operating. Supervising the NAMA executing entities Responsible for data collection and sectorial MRV Reporting to MPI and MONRE about the implementation of all NAMAs within the sectors

Other recommendations

- To integrate NAMAs into national development planning process
- To set-up carbon emission and energy consumption targets and integrate in a consistent manner in all legal documents & regulations of MOC
- To issue guidance for MRV obligation under joint circular between MOIT, MONRE&MOC
- To enhance the enforcement protocol for non-compliances in relation to mitigation action and MRV obligation
- To develop incentive mechanism & supporting policy for cement plant to invest in mitigation options
- To release new standard and regulations regarding PCB, Slag and fly-ash

Prioritization of NAMA mitigation actions and enabling activities

	Mitigation actions that can be catalyzed via enabling activities and results-based finance	Mitigation actions that can be catalyzed by additional capex-related financial support	Required enabling activities
Short-term actions (2016-2017 – readiness, 2016-2020 - implementation)	**Group 1** • 1a) Process knowhow, control and management & 1b) Diagnostic energy audits • 11) Blending: Pozzolana • 12) Blending: Limestone	n/a	• Establishing NAMA Operating Unit at MOC; • Setting up NAMA MRV system; • Revising the MOC Cement Master Plan; • Feasibility studies on various mitigation actions; • Strategic study on AFR use in Vietnam; • Designing carbon procurement tender; • Capacity building activities.
Mid-term actions (implementation after 2020 with readiness activities in the short term)	**Group 2** • 2) Modern automation and control systems • 3) Clinker cooler modification • 8) Retrofit to modern multi-channel burner	**Group 3** • 4) Waste heat recovery (WHR) • 7) BAT for alternative fuels - replacing fossil fuels	• Developing waste management regulations and infrastructure in Vietnam; • Pilot phase of the carbon procurement tender; • Introducing financial instruments; • Facilitating access to existing EE funds (for WHR); • Merging small cement plants into a number of larger companies and establishing EE technical centre(s); • Capacity building activities, especially for AFR.
Long-term actions (implementation after 2025 with readiness activities in the mid term)	n/a	**Group 4** • 5) Adding a pre-calciner to existing pre-heater kiln • 6) Additional Pre-heater cyclone • 9) Blending: GBFS as cement constituent *(Group 2 in BATP-1200)* • 10) Blending: Fly ash as cement constituent *(Group 2 in BATP-1200)*	• Developing policy and financial incentives for mitigation actions under Group 4; • Capacity building activities.

NAMA financial assessment summary (1)

	VN BaU-1200			BATP-1200			BATP-800			BATP-650		
Year	**2020**	**2025**	**2030**	**2020**	**2025**	**2030**	**2020**	**2025**	**2030**	**2020**	**2025**	**2030**
a) Absolute annual investment costs, operational costs and savings for BaU to BATP conversion in million USD per year												
Mitigation actions												
Capital investments	83	83	0	129	129	0	129	129	0	128	128	0
O&M costs	0.3	0.7	0.9	3	6	8	3	6	8	3	6	8
Material and fuel costs	11	22	31	63	126	176	49	98	137	48	96	135
Revenues / cost savings	-131	-264	-370	-484	-968	-1,360	-221	-444	-584	-208	-416	-441
Total of variable costs	-120	-241	-338	-418	-836	-1,170	-169	-340	-439	-157	-314	-298
Enabling activities	3.7	0.3	0.3	3.7	0.3	0.3	3.7	0.3	0.3	3.7	0.3	0.3
b) Annual clinker and cement production and CO_2 mitigation volumes due to implementation of mitigation actions in million ton per year												
Cement production	105	121	126	105	121	126	69	76	82	63	65	67
Clinker production	84	97	101	81	88	87	53	55	57	49	47	46
BATP CO_2 mitigation potential	1.7	3.4	4.9	6.9	14	20	5.8	12	17	5.7	11	17

NAMA financial assessment summary (2)

	VN BaU-1200			BATP-1200			BATP-800			BATP-650		
Year	**2020**	**2025**	**2030**	**2020**	**2025**	**2030**	**2020**	**2025**	**2030**	**2020**	**2025**	**2030**
c) Financial key performance indicators in USD per ton cement and per ton CO_2 mitigated												
Capital investment cost per ton cement for BaU to BATP conversion	0.79	0.68	0	1.22	1.06	0	1.86	1.69	0	2.03	1.96	0
Change of variable cost per ton cement due to BaU to BATP conversion	-1.14	-2.0	-2.7	-4.0	-6.9	-9.4	-2.5	-4.5	-5.4	-2.5	-4.8	-4.5
Capital investment cost per ton CO_2 mitigated	49	24	0	19	9	0	22	11	0	22	11	0
Change of variable cost per ton CO_2 mitigated	-70	-71	-70	-61	-60	-60	-29	-29	-27	-28	-27	-18
d) Investments needed for additional new capacity to meet the 1,200 kg/inh/y scenario and avoided CO_2 emissions due to avoided capacity growth												
Additional new clinker capacity required compared to the 2013 levels	29	42	46	26	33	32	0	0	2	0	0	0
Required investments into additional clinker production vs. current levels	$1,003	$450	$138	$900	$242	0	0	0	$69	0	0	0
Additional CO_2 mitigation due to avoided growth of cement capacity, $MtCO_2e/y$	0	0	0	0	0	0	26.6	33.3	32.6	31.1	41.2	44.3

NAMA financial assessment conclusions (1)

The cement NAMA in Vietnam would be one of the most ambitious NAMAs around the world in terms of the total avoided GHG emissions, required investments and potential cost benefits:

- Emission reductions by 2030: 138-166 Mt CO2e (BATP scenarios)
- Required investments by 2030: USD 1.8 billion
- Cost of enabling activities: USD 15 million (<1% of investment needs)
- Expected cost savings by 2030: USD 8-10 billion (BATP scenarios)

The figures are based on the MAC assumptions that all 12 mitigation technologies are deployed in parallel starting from 2016. The real values will differ. But these preliminary assessment results can illustrate the magnitude of the cement NAMA impact.

NAMA financial assessment conclusions (2)

- The cement NAMA in Vietnam is **economically feasible** and can bring substantial cost savings to the cement companies under all scenarios:
  - 8 out of 12 mitigation actions show positive MAC (profitable),
  - 4 mitigation actions are no-/low-cost (improving operational energy efficiency performance, blending pozzolana or limestone to reduce the clinker content),
  - Decrease of variable production cost per ton cement: 2.5-4.5 USD/t (10-18% reduction of the operational cost vs. typical 25 USD/t cost).
- Therefore, the mitigation actions are economically attractive for the cement companies, who should be the main source of NAMA finance.
- Domestic public and international finance will be needed to:
  - Create the enabling environment (to cover the costs of enabling activities),
  - Provide financial incentives to catalyze investments by the industry (loans, performance guarantees, results-based payments, establishing EE facility, etc.).

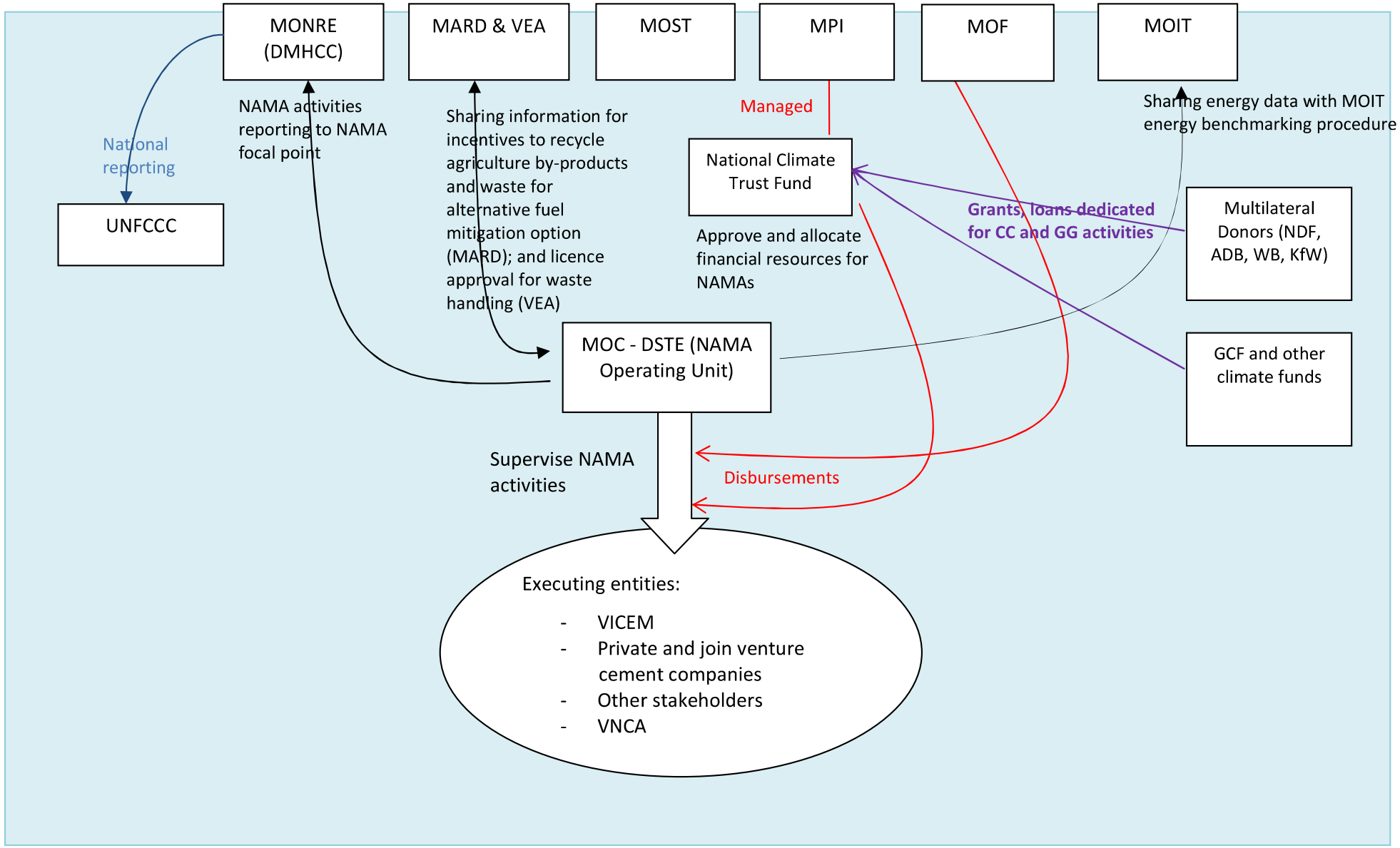
Cost of NAMA enabling activities (USD 15 M)

Costs	When needed	Purpose	Source
1. 'Readiness budget' **~USD 3 million**	2016-2020 (major portion in 2016-2017)	To be used for creating policy and financial incentives, preparing feasibility studies, setting MRV system and organization of initial capacity building activities.	International donors and domestic public: 100% intl. in 2016-2017 50% intl. / 50% domestic in 2018-2020
2. 'Operating budget' **~USD 300K/year**	From 2018 till 2030 (and beyond)	Operational and management costs of the MOC NAMA Operating Unit, Facility for Purchasing Credits (FPC), organization of regular capacity development activities.	Cost recovery mechanism (from energy savings, carbon cost or coal use tax)
3. Budget for the pilot phase of carbon procurement tender **~ USD 10 million**	For 3 years (2018-2020)	Pilot phase of the carbon market mechanism to incentivize short-term and mid-term mitigation actions by the plants	International donors and domestic public (share tbd)

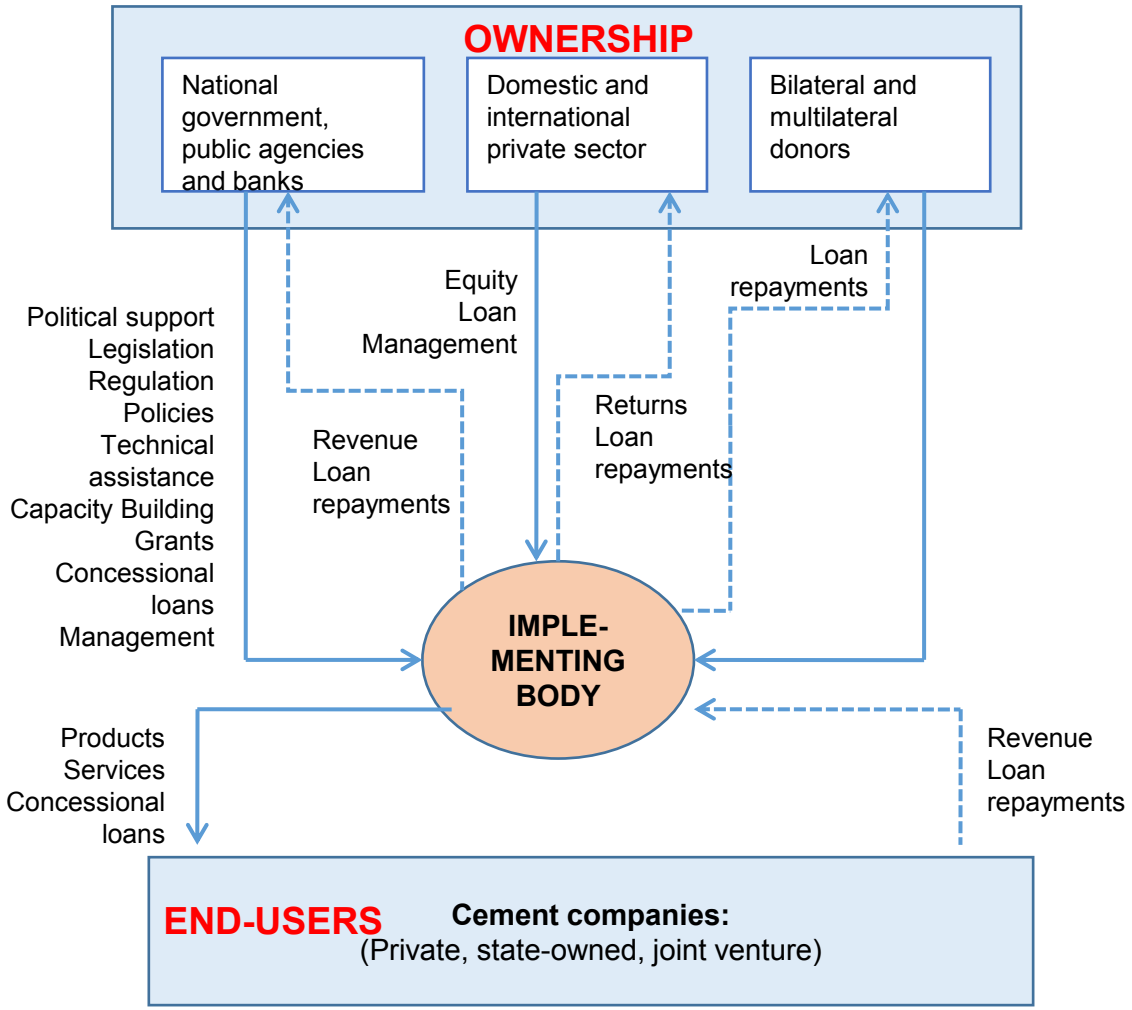
Financing NAMA actions and activities

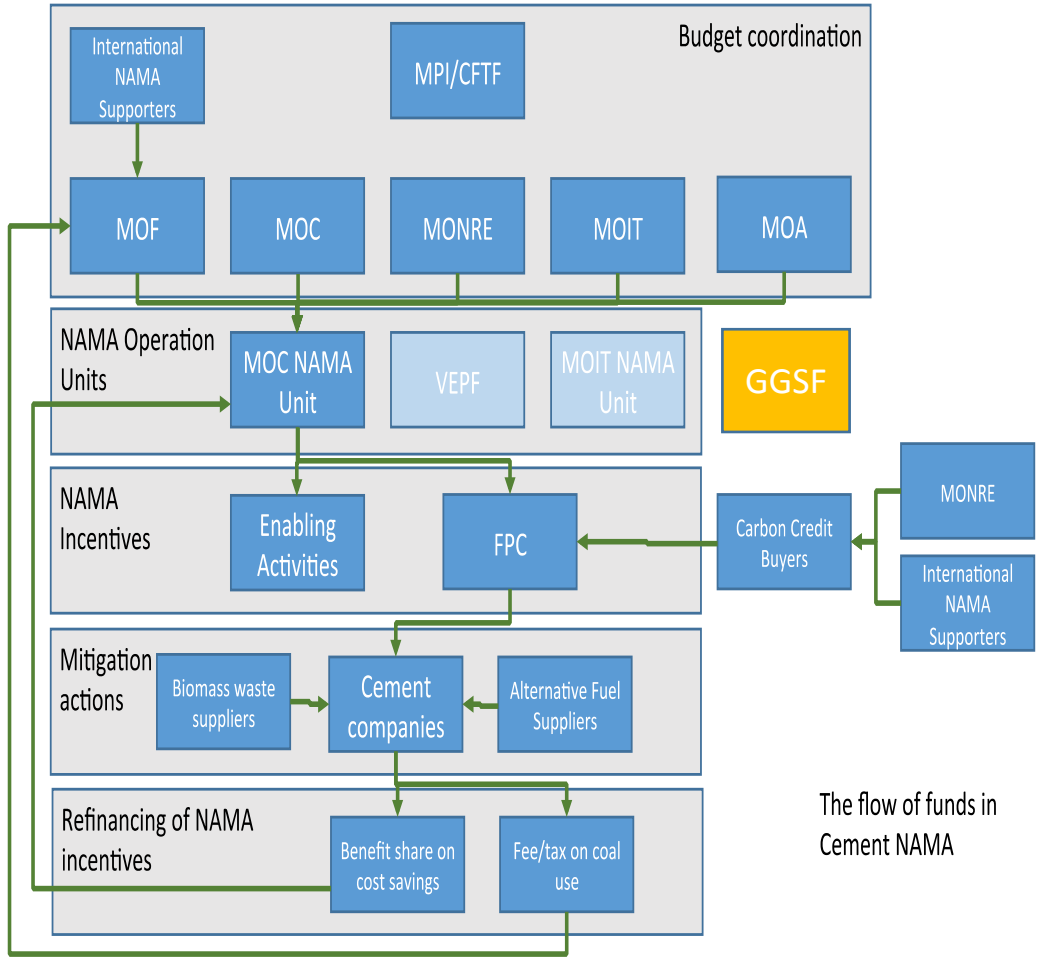
	Mitigation actions that can be catalyzed via enabling activities and results-based finance	Mitigation actions that also need financial support for capex	Required enabling activities
Short-term financing **(2016-2020)**	**Group 1** 1. Capital markets, balance sheets of cement companies. 2. Results-based payments from the pilot phase of the carbon credit procurement tender; 3. Existing domestic and international EE support funds.	n/a	1. International (NDF, NAMA Facility, GCF) and domestic public funding for initial readiness: • Updating cement Master Plan, • Developing policies and regulations, • Developing waste management infrastructure, • Budget of the MOC NAMA Operating Unit, • Setting up FPC, design of procurement tender, • Capacity building, • MRV at plant-level. 2. Budget for piloting carbon procurement tender. 3. Cost recovery mechanism to fund the operational costs of NAMA Operating Unit and FPC via: • a small share of energy savings (like ESCO), • a fee per carbon credit added to carbon price, • a fee (or tax) on the use of coal.
Mid-term and long-term financing **(2021-2025)**	**Groups 1, 2** 1. Capital markets, balance sheets of cement companies; 2. Results-based payments from Facility for Purchasing Credits (FPC); 3. Pre-payments from FPC against the future delivery of credits; 4. Existing EE support funds; 5. International carbon market.	**Group 3 (and 4 in long-term)** 1. Capital markets, balance sheets of cement companies; 2. Results-based payments from FPC; 3. Performance guarantees and other de-risking instruments; 4. Waste disposal fee; 5. Existing EE support funds; 6. EE investment support facility; 7. Loans from climate funds (GCF); 8. International carbon market.	1. Cost recovery mechanism to fund the operational costs of NAMA Operating Unit, FPC, EE support fund via: • a small share of energy savings (like ESCO), • a fee per carbon credit added to carbon price, • a fee (or tax) on the use of coal.

Institutional arrangement for NAMA financing



Arrangement of financial flows





The flow of funds in Cement NAMA

Next Period

Today the presentation of the draft Readiness Plan for the cement sector

➢October 2014 – January 2015

- ✓Stakeholder consultations, focus cement plants, – workshop, bilateral meetings and so on.
- ✓Further develop products – for instance the financing plan
- ✓Analyse the characteristic of different donors and it should be recognised to secure synergies.
- ✓Secure financing for further activities, all support needed to move forward,
- ✓MOC should focus on attracting funds – national, meeting donors, participate COPs, UNFCCC meetings and international carbon fairs.

➢Primo 2016

- ✓Final Readiness Plan for the cement sector
- ✓(hopefully new support has been attracted so the NAMA cement continue without interruption)

Next Period – most urgent priorities for financial support

- Updating the Cement Master Plan
- Developing policies and regulations, including enhance inter-ministerial cooperation process
- Core budget for NAMA Operating Unit
- Further clarification of setting up Facility for Credit Purchasing (FCP) and preparing pilot phase of carbon credit procurement
- Capacity building and engagement of cement plants
- MRV at plant-level including new regulation on mandatory GHG reporting
- Mobilizing international climate finance and carbon market funds.

Readiness Plan for the Cement Sector In Viet Nam

Thank you for your attention!

Please do not hesitate to contact us for further information:

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