



## [REPORT TASK P-I.2.1] EMISSION AND PROJECT BOUNDARY

### EXECUTIVE SUMMARY

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The report for subtask I.2.1 presents and discusses the different options for the delineation of the emission and project boundary for greenhouse gas (GHG) mitigation activities in cement production under a Nationally Appropriate Mitigation Action (NAMA). After assessing these options from the perspective of a cement NAMA in Vietnam, the report concludes with recommendations for an appropriate boundary for such a NAMA.

The choice of emission boundary for mitigation under a NAMA, defined as the limits from where both anthropogenic emissions and emissions reductions are calculated, is crucial for a robust and credible Measurement, Reporting and Verification (MRV) system. Such a boundary can range from a measure-specific level that separates reductions from each mitigation measure under the NAMA, to a sector-wide level that looks at emissions from all cement companies as a whole. Increasing the level of aggregation<sup>1</sup> reduces cost and effort associated with MRV at the expense of accuracy and transparency; therefore, an

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<sup>1</sup> E.g. time aggregated (monthly, annually, bi-annually) and measure / impact related (single measures, unit, plant, company, sector)

appropriate balance should be sought. In addition, the boundary can encompass only direct GHG emission (scope 1); indirect emissions from electricity, heat or steam consumption (scope 2); or all other indirect emissions (scope 3).

Existing protocols for reporting emissions from cement production reflect these options for aggregation. The Clean Development Mechanism (CDM) provides numerous methodologies for calculating measure or category-specific emissions, the Cement Sustainability Initiative (CSI) takes a more holistic plant-level approach, while the Intergovernmental Panel on Climate Change (IPCC) national inventory guidelines offers a range of Tiers based on the availability of specific data.

In the context of Vietnam, the following mitigation activities are deemed as most promising and should therefore be covered by the project boundary: fuel-switching, blending, waste-heat recovery and energy efficiency. In addition, monitoring and reporting should cover the main direct and indirect GHG emissions associated with cement production of all cement plants in Vietnam within the timeframe of the NAMA. Hence the following

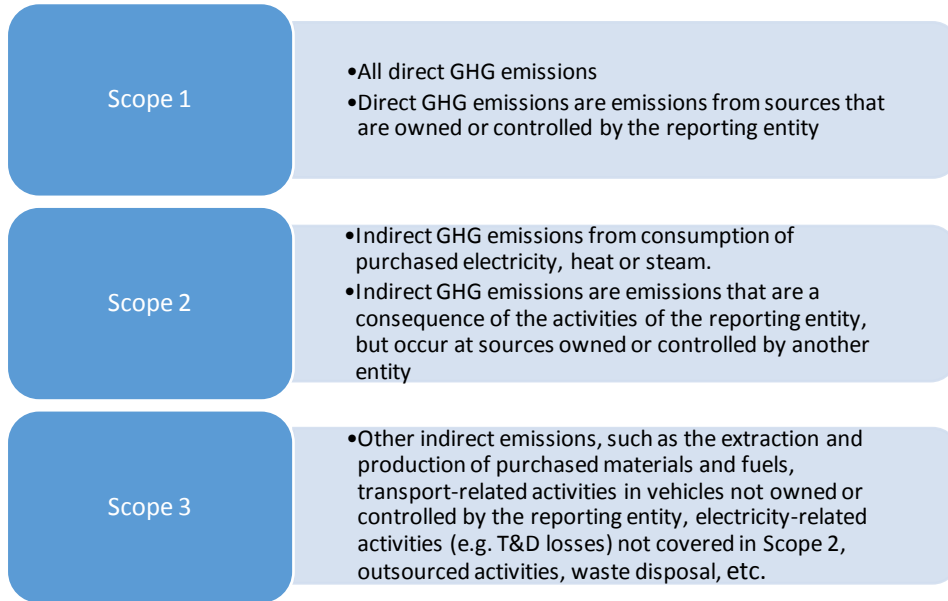
main activities/parameters are to be included in the emissions boundary: clinker production, grinding of clinker, additional fuel use for own power generation, and preparation or processing of fuels or fly ash in own installations.

We therefore recommend a blending of the existing protocols in order to include direct and indirect emissions that fall under Scope 1 and 2, which will capture the vast majority of

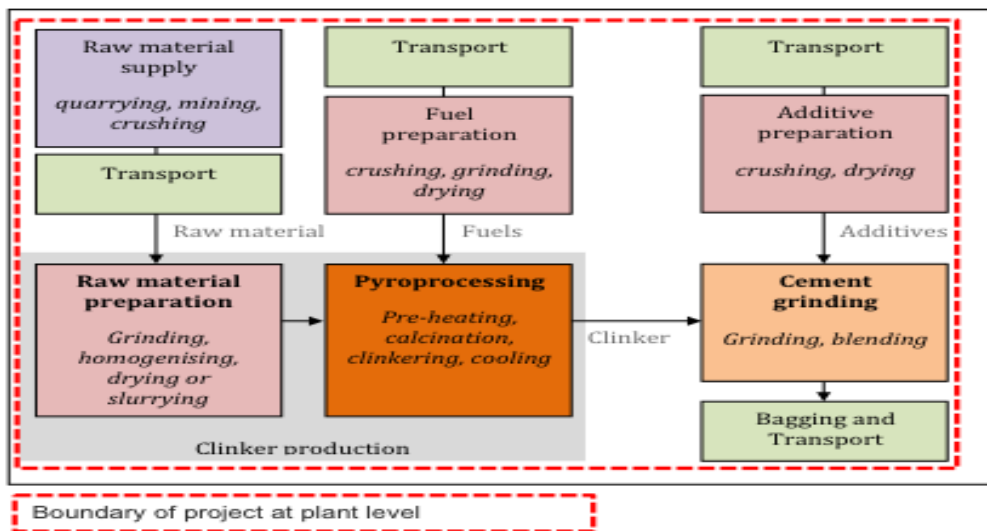
emissions associated with cement production, including emissions from energy consumption. The starting point should be the plant-level CSI methodology complemented with default emission factors, unless more recent, industry-specific data from Vietnam are available. CDM methodology-derived parameters related to indirect emissions should be applied, e.g. the Grid Emission Factor (GEF) for the emissions related to consumption of electricity from the power grid.

Annexes

Definition of emission scopes as per Greenhouse Gas Protocol



Emission and Project boundary set at plant-level



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