

Enhanced Rock Weathering (ERW) Carbon Insetting in Southeast Asia for Sustainable Supply Chains: Life Cycle Analysis (LCA) and Techno-Economic Assessment (TEA)

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True Voices From Stakeholders



Figure. 1. Gaps Identified by 60+ Interviews with Stakeholders Along the ERW Supply Chain.

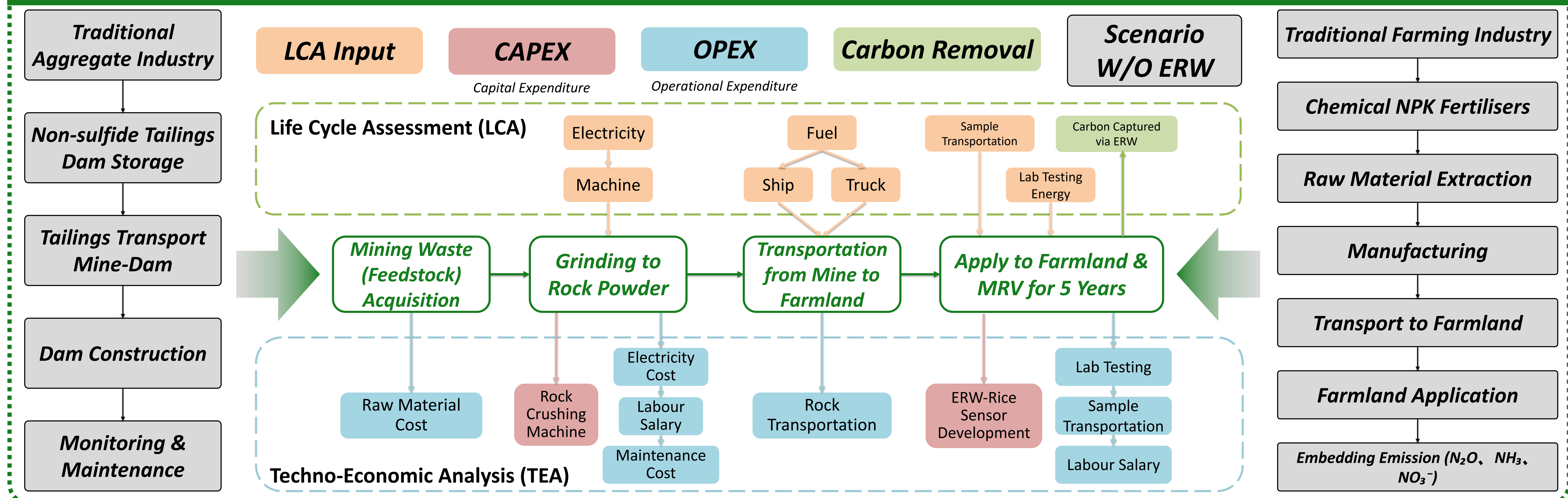
Nature & Agriculture:

- Exaggerated Carbon Removal Potential of ERW
- Lack of Field Data & Climate Advantages in SEA
- SEA Smallholders and Conservative Farmers
- Rice Paddy → Semi-Closed System → Potential to Develop Cheaper & Easier Monitoring, Reporting, Verification (MRV)

Regulation & Market:

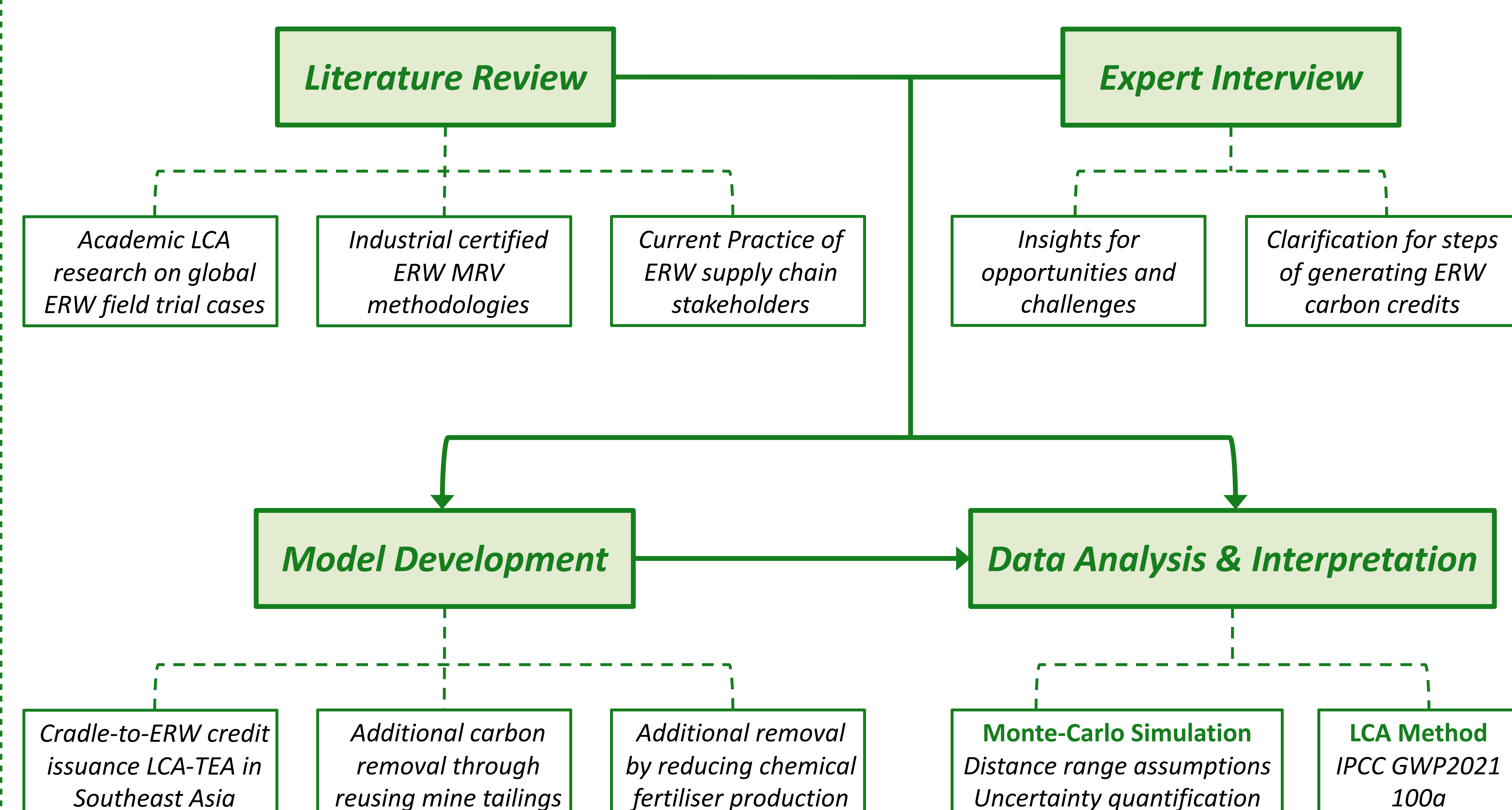
- Two ERW Methodologies Ongoing with Certification
- Only Two Registered ERW Credit Project Globally
- Concerns of Carbon Credit Integrity in SEA
- Immature carbon markets in Southeast Asia

ERW-Mining-Farming Supply Chain LCA-TEA Model



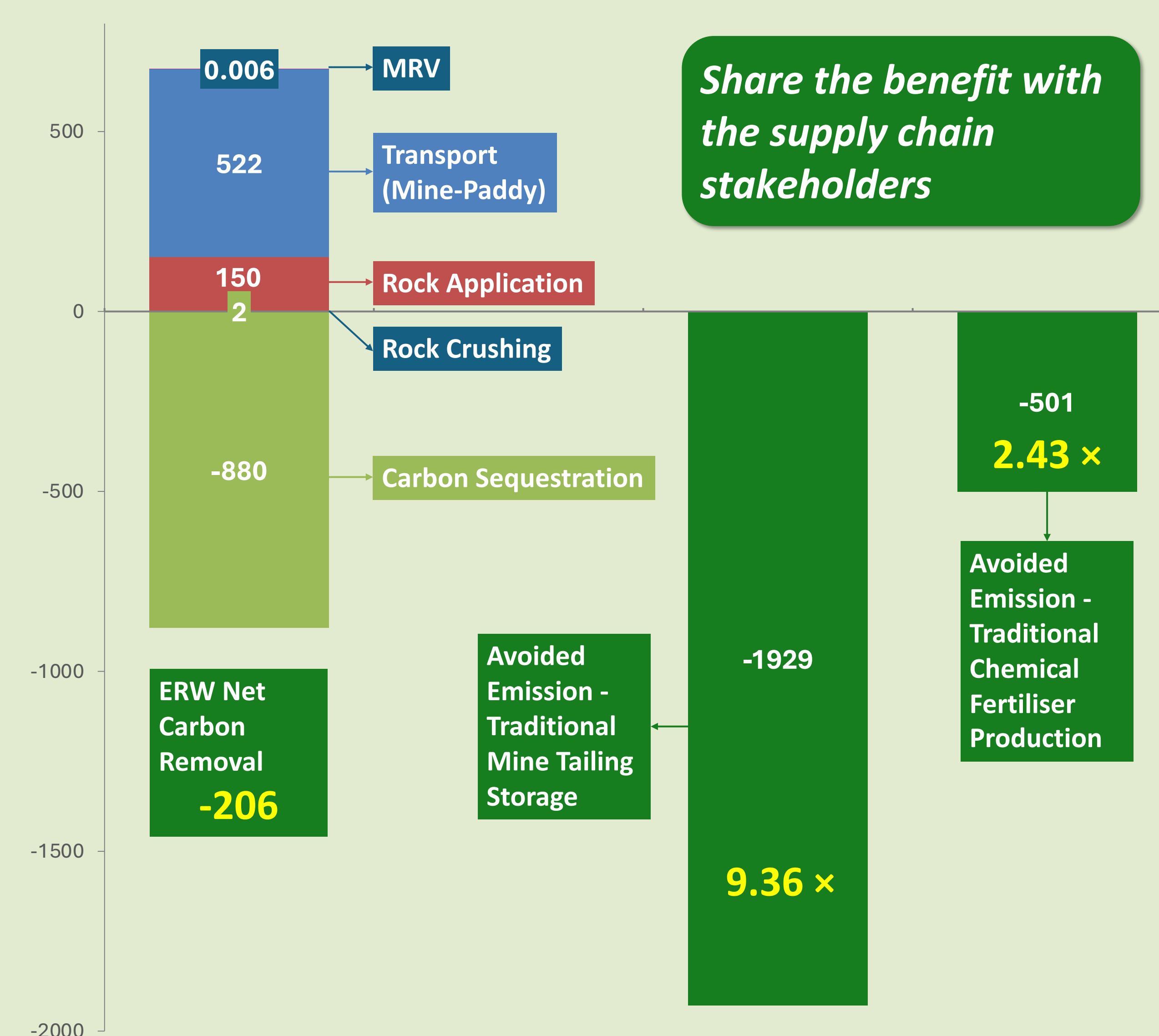
ERW Helps Inset Carbon Along the Supply Chain With Great Potential in Southeast Asia

Industrial Practice Informed ERW



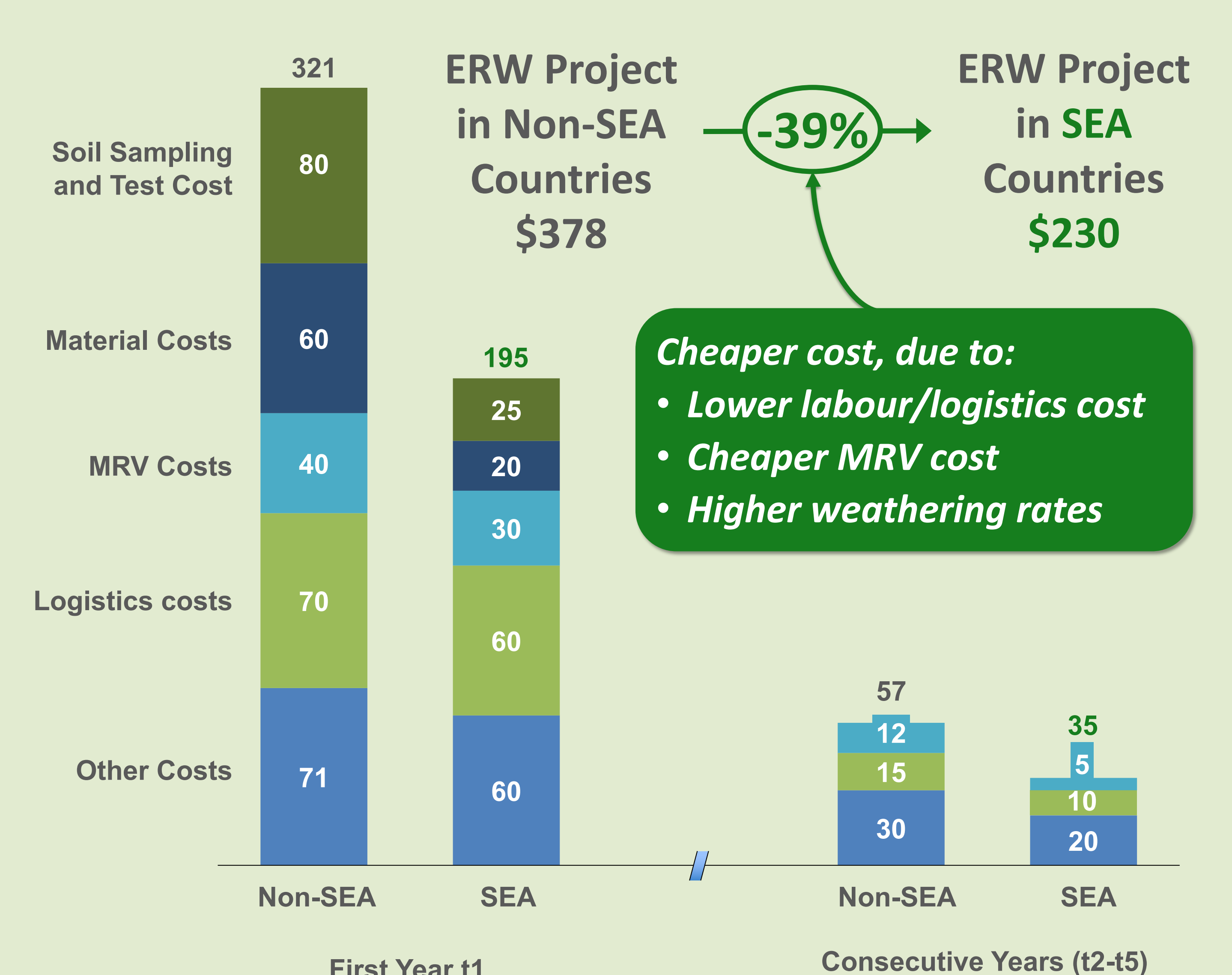
How Much Will Supply Chain Stakeholders Benefit From ERW?

LCA: Emissions per ERW Project (Tonne CO₂ eq)



*Under the example case: Basalt powders applied in 400 hectares of rice paddy in Southeast Asia, aligned with Isometric Protocol - Enhanced Weathering in Agriculture.

TEA: Cost per ERW carbon credit (USD)



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This study uses SimaPro 10.1 for LCA calculations, incorporating data from our Experiment, Ecoinvent 3.11, Agri-footprint, and maritime transportation data from Netpas.



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