Climate-Smart Mining

CSM supports the sustainable extraction, processing and recycling of minerals and metals needed to secure supply for low-carbon technologies by *minimizing* the climate and material footprints of these technologies throughout their value chain.
Building Blocks of ‘Climate-Smart Mining’

- Strong governance and adequate regulatory framework
  - Climate mitigation
    - Integration of renewable energy in the mining sector
  - Climate adaptation
    - Forest-Smart Mining with landscape management
  - Reducing material impacts
    - Adoption of a circular economy for low-carbon minerals
  - Creating marketing opportunities
    - De-risking investments for low-carbon minerals

- World Bank, IFC support to decarbonize and reduce material footprint of mining sector
  - Innovation in extractive practices
  - Resource efficiency in mineral value chain
  - Reuse / recycling of low-carbon minerals
  - Leverage carbon finance instruments
  - Energy efficiency in mineral value chain
  - Innovation waste solutions
  - Low-carbon mineral supply chain management
  - Robust geological data management

- Gender and multi-stakeholder engagement
BATTERY RE-USE & RECYCLING PHASE 2
THE CIRCULAR ECONOMY AND BATTERIES: A SOUTH – NORTH PERSPECTIVE

In partnership with the Energy Storage Partnership (ESP)

Development objective: how can developing countries best be provided with the tools and capacity to take advantage of a 2nd life global battery market for the new generation of batteries technologies?

Follow up to Report: RE USE AND RECYCLING: ENVIRONMENTAL SUSTAINABILITY OF LITHIUM-ION BATTERY ENERGY STORAGE

- Work ahead (in collaboration with GBA and others):
  - Systems for integration and effective management
  - EOL systems from cradle to grave
    » Which countries have the mineral resources?
    » What is the level of CSM in those countries to deliver those resources?
    » Capacity for processing/beneficiation/recycling
  - Enhancing the economics: building the business case
  - Regime building – strengthening standards, regulations and liability provisions

Devising roadmap(s) for deployment of second life EV batteries and battery recycling capacity in developing countries:
- Capacity for collection and recycling of ‘new generation’ batteries
- Potential for re purposing to help developing countries transition to clean electricity services