

Mitigation Actions in the Solid Waste Sector in Peru

Nordic Partnership Initiative (NPI)

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Programme for the Support of Up-scaled Mitigation Actions within the Solid Waste Management Sector in Peru

- Phase I: 2013-2015: Background, NAMA report, MRV report
- Phase II: 2016-2018: Complementary activities
- Phase III: 2018 - 202X: Paris Agreement/Article 6/NDCs
- Funded by the Nordic Countries and NEFCO
- Similar pilot done in Vietnam's cement sector with NDF support

Phase I (2013-2015)

Q3-Q4 13

- Project set-up
- Project Launch
- Stakeholders meetings
- Diagnosis Report
- National Survey
- Characterization studies
- Site visits -08 cities
- SIGERSOL review
- Prelim GHG inventory
- Relevant waste flows review
- Conglomerates Potential
- COP 19
- Interclima

Q1-Q4 14

- GHG inventory
- BAU report
- Training
- Mitigation options definition
- Improved SIGERSOL
- National Strategy (conglomerates, technology, competence organizational issues, KPIs, budget)
- Stakeholders meetings
- COP 20

Q1-May 2015

- NAMA report
- MRV report
- Benchmarking
- Intl. Financing scheme
- Final Report



Selected mitigation technologies

- Landfill gas capture with flaring
- Landfill gas capture with energy generation (heat or electricity)
- Source separated composting
- Mechanical Biological Treatment

Phase II (2016-2018) complementary activities

- **MRV:** Strengthening of **information system** for solid waste management
- **Composting:** Enabling conditions to create supply and demand
- Mitigation potential of **final disposal** infrastructures for solid waste in prioritized areas
- **Financing:** Evaluation of public, private and public-private financial mechanisms and policy instruments for selected cities
- **Recycling:** Evaluation of the mitigation potential of **recycling** of plastic, glass, paper and cardboard
- **Article 6:** Opportunities for the implementation of Article 6 of the Paris Agreement in the solid waste sector in Peru

NAMAs -> NDCs

- Since NPI's launch in 2011, focus shifted **from NAMAs to NDCs**
- All NPI work fully relevant also for Paris Agreement, contributing to:
 - **Solid Waste Law** (December 2016): principles of circular economy, waste recovery and recycling, extended producer responsibility
 - **Peruvian NDC**: -20% from BAU by 2030 (-30% conditional), economy-wide incl. LULUCF; CO₂, CH₄, N₂O
 - **NDC implementation**: Solid waste sector roadmap (enabling environment, mitigation options)
 - **GHG inventory and NDC progress tracking**: solid waste sector information system which feeds into national GHG information system

Article 6 "virtual pilot": Commercial aspects

- Conceptual case study for real context & dialogue with Peru
- Ultimate goal: Assist Peru in (over-)achieving its NDC
- Proposed Pilot Cooperative Arrangement between Peru and buyer government with call option:
 - Buyer pays option premium against pre-agreed milestones
 - Peru obliged to offer call option right to buyer country if and only if ITMOs are generated beyond pre-agreed threshold/trajectory
- Proposal for a NAMA fund to pool and provide blend of domestic and international climate finance and carbon market-based financing; manage MRV and attribution of mitigation outcomes for accounting
- Role of, and incentives for private sector and municipalities?

Article 6 "virtual pilot": Baseline

- **How to derive sector-specific baseline from economy-wide NDC?** Peru's NDC details, incl. BAU per sector, provided in technical report.
- **How to consolidate differences between NDC and bottom-up BAU scenarios? [How] should ambition of NDC be considered?** Peru's NDC estimates 82% increase in solid waste sector BAU emissions by 2030; NAMA BAU study estimates are lower due to different tiers/assumptions.
- **Should crediting baseline reflect only mandatory/no-lose actions?** E.g. would baseline assume zero mitigation from LFGE? Peru's sector ministries develop roadmaps that identify policy and mitigation actions for achieving NDC. Solid waste sector roadmap includes landfill gas (LFG) flaring as mandatory action; excludes landfill gas-to-energy (LFGE) due to high cost.

Article 6 "virtual pilot": Additionality

- Can solid waste sector actions generate ITMOs before Peru's [waste sector's share of] [unconditional] NDC fully achieved?
- E.g. are LFG-to-energy activities automatically and fully additional (since excluded from NDC solid waste roadmap)?
- Are all flaring activities non-additional (since mandatory by law and included in NDC solid waste roadmap)?
- Are activities receiving domestic funding non-additional?
- Are activities receiving blend of domestic & carbon market finance eligible to generate ITMOs for [x % of] mitigation outcomes?
- Role of registered CDM projects?

Article 6 "virtual pilot": MRV & accounting

- **Should MRV/accounting systems cover full NDC scope, or just relevant sector?**
 - Peru's national MRV framework (GHG inventory + mitigation actions registry) is under work; 1st BUR 2014; ICA 2015-16; QA/QC procedures in line with IPCC 2006 guidelines implemented for latest national inventory.
- **Until sector-wide emissions data are of sufficient quality, can integrity of specific ITMOs be ensured through project-level approach?**
 - Peru's national mitigation actions registry aims to facilitate results-based financing /ITMOs.
- **How to promote/implement transparency and robust accounting on a interim basis?**

Article 6 "virtual pilot": Possible next steps

- Development of multi-year emission trajectory for Peru's NDC and solid waste sector crediting baseline to determine amount of ITMOs available for transfer from the solid waste sector
- Approaches to attribute mitigation outcomes to climate finance/markets
- Clarification of conditional/unconditional NDC elements for solid waste sector
- Development of vehicle to leverage finance for solid waste sector mitigation actions
- Negotiation of contractual terms for ITMO transactions
- Linkages with SDGs

Phase III: *The Nordic Initiative for Cooperative Approaches (NICA) 2018-*

- Sweden, Norway and Finland in co-operation with NEFCO indicated a strong interest and willingness to continue the co-operation taking into account the Paris Agreement and Nationally Determined Contributions
- Focus on supporting implementation of the Paris Agreement on a broader level and in particular on **operationalizing Article 6**
- Demonstrate, in a practical manner, how cooperative approaches can be used to **enhance ambition, support sustainable development, accelerate climate action and engage private sector**
- Supporting Nordic actors' continued positioning as important players in the carbon/climate markets