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# **COP 19 Side Event: A shared vision of NAMAs: practical application and their role in an ambitious 2015 agreement**

## **Solid Waste NAMA Peru**

Presentation by Mr Ash Sharma, NEFCO and Mr  
Eduardo Durand, MINAM

*November 18<sup>th</sup>, Warsaw, COP 19  
Side event room 3*



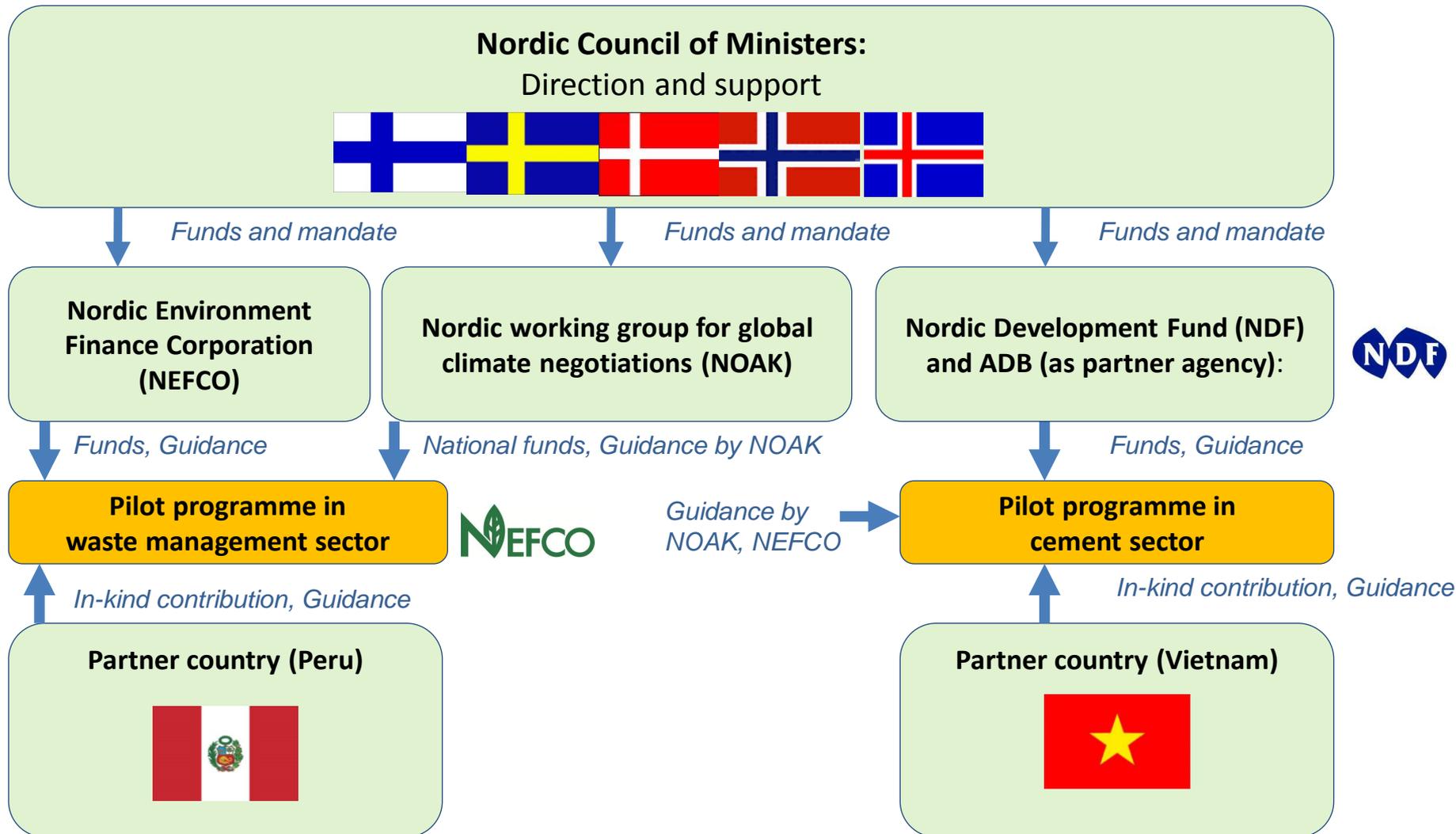
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# NPI Objectives for the Peru programme

- We aim at:
  - **learning in practice** how broad and up-scaled support can effectively be matched with comprehensive host country mitigation plans
  - **piloting NAMAs** in selected broad sectors of the economy with a subcomponent of **testing design of new market-based mechanisms**
  - providing **useful input to UNFCCC negotiations**
  - **encouraging others** to take similar actions
- We do *not* aim at:
  - developing or replacing CDM projects
  - purchasing credits
- Other strategic considerations :
  - Developing a waste management strategy and identifying the **required investment needs**
  - Laying the foundations for **sector wide** policy measures in line with Peruvian climate change strategy
  - Using **innovative climate financing** including use of market mechanisms to supplement domestic and international finance
  - Encouraging inclusive growth in the sector through **private sector development**



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## Peru is a growing country ...

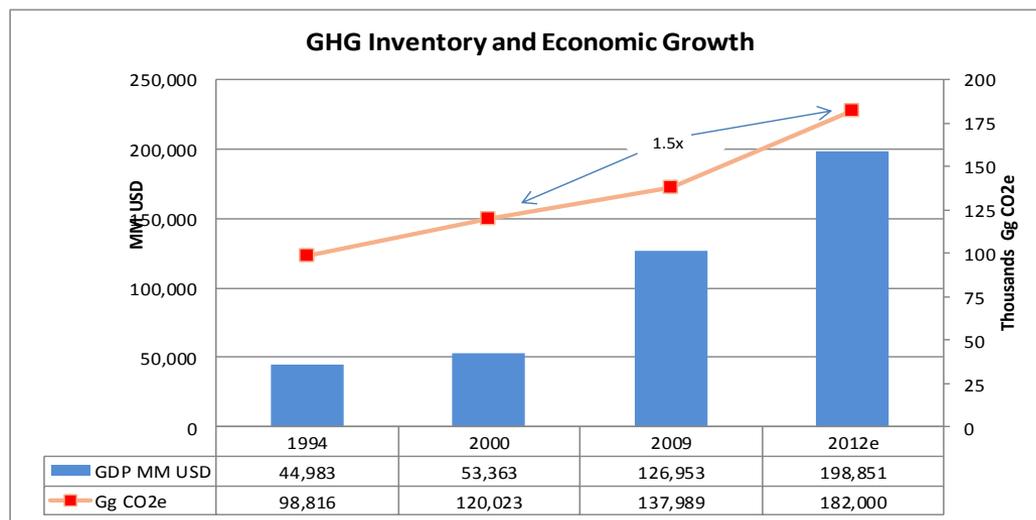
- Peru has been showing a strong economic growth during the last 10 years
- Likely to grow by 5.5% per year, even in a difficult international context
- Increase of natural resources related industries as major drivers of growth
- Government efforts to fight against poverty, in a context of fast social and institutional changes

### ***... still having to cope with serious environmental issues:***

- *Water quality and sanitation*
- *Deforestation and land degradation*
- ***Solid waste management***
- *Climate Change: One of top ten countries **vulnerable** to climate variability and climate change driven disasters*

# Economic growth and carbon emissions in Peru

- Marginal emitter at **global level (0.4%)**, but high carbon intensity of the economy due to the coupling between economic growth and GHG emissions.
- Energy and agriculture rapidly growing and becoming more important in the emissions structure, but **deforestation and land use change are still the major drivers**.
- Waste is around **6% of the GHG inventory** but plenty of project opportunities



# Policy Context for GHG Reduction: Voluntary Commitments **for 2021**



Net emissions declining to zero in LULUCF  
sector

Baseline: annual deforestation 150,000 ha (1990-2000) –  
53 MT CO<sub>2</sub>eq; Conservation of 54 million Ha of primary forests



Shift of the national energy consumption  
matrix to 40% of non-conventional  
renewable energy and hydro-energy

Mix of efficiency and renewable, including hydropower; biomass;  
wind; solar; about 28% reduction as compared to 2000;  
potential reduction 7 MT CO<sub>2</sub>eq



Capture and use of methane from proper  
disposal of municipal solid waste

Country-wide program; priority in landfills for medium and  
large cities; potential reduction of 7 MT CO<sub>2</sub>eq.



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# NAMA: National Mitigation Programs and Guidelines

## Peru understands NAMAs as

- programs that involve activities in the national, sectorial and sub national levels, addressed to **promote sustainable development through reduction of the trend of growth of GHG emissions.**

## Guidelines:

- To promote **reduction of the emissions growth trend** as a contribution to the global mitigation effort, and transformation towards a low carbon economy.
- To prioritize sector/ areas where the actions have **co-benefits** in terms of social inclusion, economic growth, poverty reduction, decentralization, enhance the quality of environment and adaptation.
- To promote **capacity building** in government, civil society, private sector and specially in Andean and indigenous population.



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# Challenges to strengthen NAMA process in Peru

- Lack of data, and data processing
- Capacity Building at national and sub national level
- Lack of capacity (financial, operational, staffing),
- Institutional barriers: In-country institutional arrangements
- Financial barriers: establish national financial mechanism for implementation
- Integration between GHG information and monitoring systems: MRV reports, carbon footprints, future domestic emission trading system

# Opportunities of the NAMA process in Peru

- Strengthen government institutions and capacities at national and sub- national level
- Opportunity to expand the public, private and social investment to ensure that economic growth will be more efficient and low carbon oriented
- Appropriate design of NAMAs according to national, regional and local circumstances, including poverty alleviation and adaptation approach
- Co-benefits: Important measures and projects already underway to reduce crucial countrywide impacts in environmental quality, water, soils, sanitation and health

# Solid Waste Overview in Peru

- Daily amount of estimated 17,000 tons, of which only 2/3 collected and treated at all, only 20% of total disposed of on the 8 sanitary landfills
- Emissions from solid waste management (landfills and open dumps) estimated at 7.3 million t.p.a., expected to grow to 11 million t p.a.
  - account currently for 6% of national GHG and rising
- Environmental and public health issues include:
  - methane emissions
  - severe groundwater contamination
  - toxic chemicals and harmful substances released towards rivers
  - large non tax paying sector
  - open incineration results in further environmental degradation





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# Investment Program on Solid Waste JICA /IADB



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## Programa de Inversión a NIVEL DE FACTIBILIDAD

Código SNIP: PROG-16-2010-SNIP



Programa de Desarrollo de Sistemas de Gestión de Residuos Sólidos en Zonas Prioritarias de Puno, Piura, Ancash, Tumbes, Apurímac, Ica, Huánuco, Puerto Maldonado, San Martín, Junín, Lambayeque, Loreto, Ayacucho, Amazonas, Lima y Pasco

| Phase  | Loan (MM US\$) |      | Counterpart (MM US\$) | Total (MM US\$) |
|--------|----------------|------|-----------------------|-----------------|
| First  | JICA           | 56.0 | 14                    | 70.0            |
|        | IADB           | 15.0 | 3.75                  | 10.75           |
| Second | JICA           | 30.0 | 7.5                   | 37.5            |
| Total  | 101.0          |      | 25.25                 | 126.5           |



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## Solid Waste NAMA Peru

- Programme for supporting up-scaled mitigation action in Peru's waste sector under the Nordic Partnership Initiative
- A joint initiative of Ministry of Environment (**MINAM**), Nordic Environment Finance Corporation (**NEFCO**) and Nordic Council of Ministers

### Programme Objective:

“Improve Peru's readiness to benefit from international climate finance and/or the carbon market for supporting up-scaled mitigation action in the waste sector”

### Final product:

“At least one detailed NAMA option”



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# Solid Waste NAMA Peru: Activities 2013-14

- Stakeholder process
- Data compilation, diagnosis of solid waste sector
- GHG Emission Inventory for the sector
- BAU emission scenario
- Improved waste monitoring system (SIGERSOL)
- Waste strategy
- Identification of mitigation options
- NAMA design
- Elaboration of MRV system
- Design of an International and national financing structure.

Carried out by an international consortium of :



MIRANDA & AMADO  
ABOGADOS

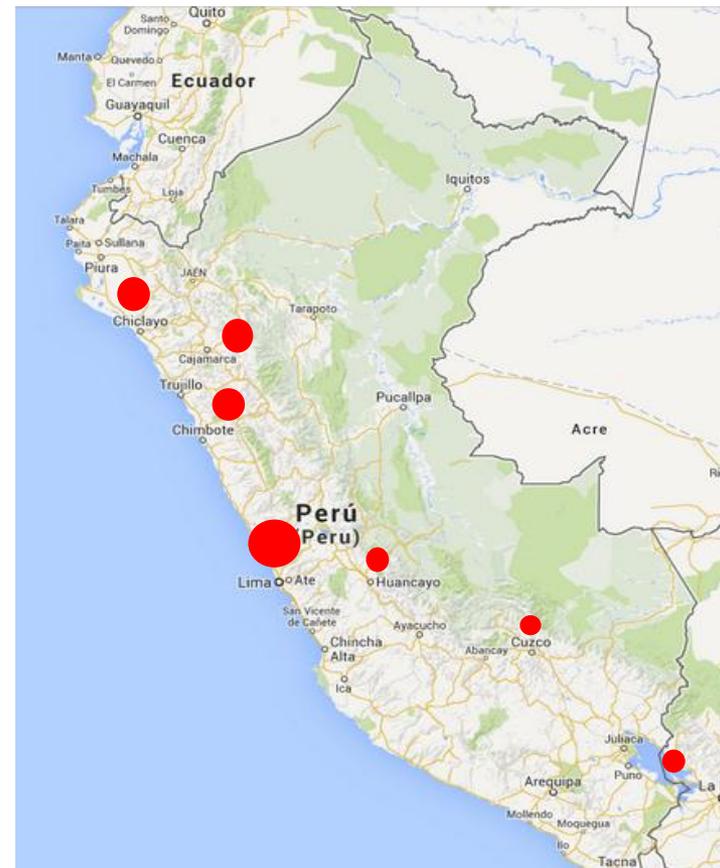


## Executed activities until now

- Compilation of information on solid waste at national and local level: SIGERSOL, municipal infrastructure projects, evaluation of more than 200 characterization studies, sector studies, etc.
- Interviews with state institutions, industrial sectors and donor organizations
- Survey (questionnaires, telephone follow-up) in this complex universe of 1838 municipalities,
- Characterization of waste in 3 cities
- Visit of disposal sites
- Stakeholders workshops with public sector and in 8 regions
- A specific model for GHG emissions in progress

# Challenges of the Solid Waste NAMA

- Universe of 30 million Peruvians living on over 1.285 million Km<sup>2</sup> in 1838 municipalities
- **Urban population of 70 %**, confirming a highly **asymmetric distribution** of municipalities: highest population density in the capital Lima with almost 10 million people; lowest density in the jungle
- To create synergies with other projects in progress (e.g. the JICA-BID landfill programme for 31 cities); to **mainstream mitigation into national and internationally financed initiatives** in the sector
- Identify **technologies that are appropriate and realistic** in the Peruvian context and for different
- Define a **financial structure to integrate the private sector**
- Design a **mix of financing**: national and international, different financial instruments (credit lines, guarantees, funds, etc.) and fair user fees



- Design of a **balanced MRV**: solid but not creating implementation barrier

# Early Lessons Learnt from Solid Waste NAMA

- Concentration mainly on municipal waste streams, 7 cities. concentrates 2/3 of total population.
- Importance of stakeholder involvement.
- Complexity of the sector and its institutional settings, variety of realities on municipal level.
- Data quality as challenge, econometrics as strategy.
- The sector finds itself in a strategic moment:
  - Waste streams are rapidly growing, due to economic development and changing consumers patterns.
  - Several programs as well as private sector investment are underway to massively develop the country's solid waste infrastructure, namely sanitary landfills.
- The Solid Waste NAMA aims to assure the inclusion of mitigation concepts in the fast developing sector.
- Logistics for waste management will be a key issue in the NAMA.

## Challenges in policy making side

- The institutional challenges to support this era of very focused mitigation solutions are huge, we need a more accurate project management thinking and a strong partnership with private stakeholders.
- Our **previous experience in CDM** with 86 CDM projects with LoA, which 63 ones are registered and 13 receiving CERs is a lesson learned to be considered carefully in this stage of our development.
- We have to assure a context of **clear regulations, attractive economic structures for long term operations** and capable of supporting **environmentally sound technologies and world class practices** even our logistical difficulties and asymmetric distribution of population and markets.
- As policy makers the **NAMA concept is very appropriate** for this new scenario in our history and feel a strong sense of urgency to develop in our Organizations and later in our Congress all the regulations related to the NAMAs to come, time is ticking and 2015 is practically 24 months ahead.

## NAMAs role in an ambitious 2015 agreement

- **2015 will be a critical milestone** for all projects associated to carbon markets, expecting a new wave of projects and new technologies supported by the decisions that will be taken in Paris.
- This time, there is a **strong learning curve back mainly from CDM**, and we foresee many NAMAs practically ready for their implementation with clear engineering concepts, clear financial structures and strong MRV assuring the environmental integrity of the reductions.
- **The main concerns should be the political commitments** to assure the markets, not the NAMAs. After 10 years of Kyoto commitment, **humanity has learned** the possibilities of working with many complex international resources with one common clear goal; so this next stage of NAMAs should be realistic and very focused on the need of developing economies for the next decade



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