



NAMAs in Transport Sector

Shukla, P. R. ; Sharma, Sudhir; Dhar, Subash

Publication date:
2013

[Link back to DTU Orbit](#)

Citation (APA):

Shukla, P. R., Sharma, S., & Dhar, S. (2013). NAMAs in Transport Sector [Sound/Visual production (digital)]. Experience Sharing Workshop in preparation of Low-carbon Comprehensive Mobility Plans in Indian Cities, Udaipur, India, 22/08/2013

DTU Library

Technical Information Center of Denmark

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

NAMAs in Transport Sector

**Experience Sharing Workshop in preparation of
Low-carbon Comprehensive Mobility Plans in Indian Cities
22 - 23 August 2013
Udaipur**

Supported by:



Federal Ministry for the
Environment, Nature Conservation
and Nuclear Safety

- What is a NAMA
- NAMA in Transport
- Financing for NAMA
- NAMA: Indian Perspective

What is a NAMA

- **The Bali Action Plan 2008:** Enhanced action on mitigation of climate change, including, ***Nationally Appropriate Mitigation Actions (NAMAs)*** in the context of sustainable development, supported and enabled by technology, financing and capacity building, in a measurable, reportable and verifiable manner.
- **The Cancun Agreement (UNFCCC COP16, December 2010):** *“Developing country parties will take nationally appropriate mitigation actions in the context of sustainable development, **supported and enabled by technology, financing and capacity-building**, aimed at achieving a deviation in emissions relative to ‘business as usual’ emissions in 2020.”*

- The **integrated assessment research** shows that sustainable development strategies that align national development and global climate goals deliver mitigation at lower **‘social cost of carbon’** compared to mitigation done from a ‘conventional’ business-as-usual development pathway.
- **NAMAs** are the key part of the roadmap that **aligns national development and global climate goals**.



UNEP

NAMA as country pledge

UNEP
RISØ
CENTRE

ENERGY, CLIMATE
AND SUSTAINABLE
DEVELOPMENT

- NAMA as developing country Pledges submitted to the UNFCCC, and may be interpreted as:
 - Aggregate national level voluntary mitigation efforts countries are willing to undertake to address their GHG emissions and achieve significant deviation from the BAU emissions.
- Examples
 - Government of India's submission to reduce Emission intensity of GDP by 20 – 25% below 2005 level by 2020.
 - These pledges include:
 - National Voluntary goals (X% below 1990 by 2020; or X% below BAU emissions in 2020, etc.); sectoral goals (afforestation increase by 10%); measures (energy efficiency in buildings, solar energy increase in electricity, etc.); or list of specific projects.



NAMA as specific implementation mitigation action

- Specific mitigation actions with clear defined goals/objectives.
 - Limited to sector/sub-sector or specific technologies or sources of emissions.
 - Implementation of Policies/programmes and in some cases Projects.
- Example: 25 NAMAs uploaded on the UNFCCC Registry – 15 seeking support for development; 6 seeking support for implementation; and 4 for recognition, and include

Transport NAMAs



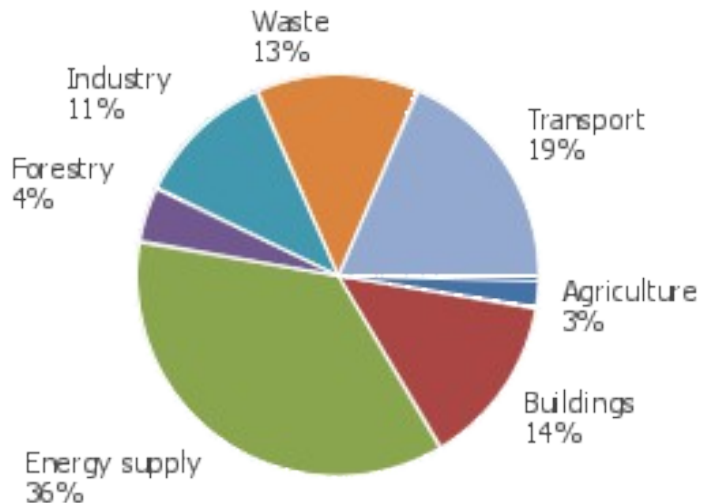
UNEP

NAMAs: Overview

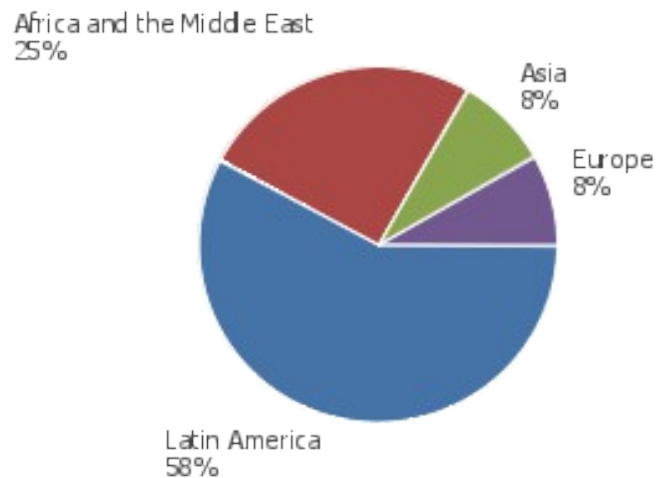
UNEP
RISØ
CENTRE

ENERGY, CLIMATE
AND SUSTAINABLE
DEVELOPMENT

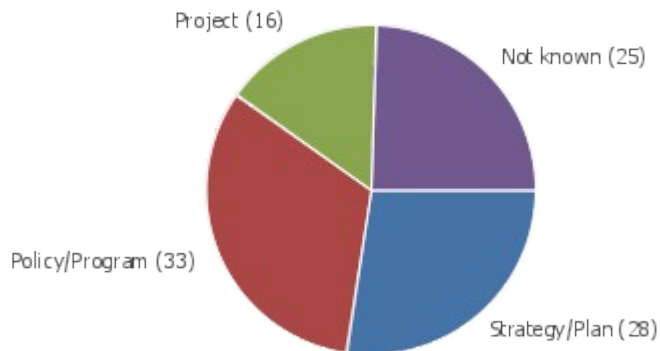
Sectoral Distribution



Regional Distribution



Type of Action



NAMA Examples from Transport

Country	Type	Type of Action
Submitted to UNFCCC		
Ethiopia	Shifting Freight to Electric Rail	Project
Indonesia	Sustainable Urban Transport Initiative	Policy/Program
Under Development		
Columbia	Electric Vehicles Transit oriented development	Strategy/Plan
Mexico	Optimisation of the conventional bus system in Mexico City	Strategy/Plan
Chile	Low emission vehicles (taxis and Transantiago), bicycle promotion, transit management	Strategy/Plan
Brazil	Comprehensive Mobility Plan for Bello Horizonte	Strategy/Plan

More slides providing examples for NAMAs at the end

Financial Support for NAMAs

Financial Support Under the UNFCCC

- Incremental Cost is financed through financial mechanism of the UNFCCC.
- Incremental costs = NAMA cost – cost of baseline activities that would be implemented in absence of a NAMA
- Financing from climate change through
 - GEF
 - Green Climate Fund
 - Bilaterals/Multilaterals

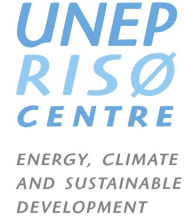
- A NAMA could include following combination of activities:
 - Direct creation of physical and technical infrastructure (e.g., construction of BRTS, etc.);
 - Technical assistance and capacity building support
 - Development of regulation, policies, fiscal or financial incentive mechanisms and their implementation, etc.;
 - institutional infrastructure to support implementation of policies and regulations; and
 - Planning, research and capacity building activities (e.g., LCMP)
- Financing for Technical assistance and Capacity Building through grants,
 - mostly from international public finance;
 - But also national public finance.

Finance sources and types of activities

- Investments for physical and technological infrastructures
 - mostly through funds raised by investors (loans, FDI, equity);
 - Could include governments seeking sovereign loans (e.g., MRTS construction); and
 - Line of credit for loans – where profitability is not an issue but high upfront costs makes access to finance difficult.
- Investments may receive some grant support:
 - Low returns compared to BAU options
 - either upfront to reduce investments costs through subsidies or lower than market interest rate loans; or
 - during operational phase – such as higher service fee, feed-in-tarrifs, carbon markets, etc.
 - Higher (perceived risks) – guarantees, etc.
- Countries may receive loans/low interest rate loans if availability of investment finance is a challenge for low cost options;
- International financial institutions and bilateral financial institutions have prioritized investments that have low carbon impacts.

International requirements for NAMAs

- NAMA – specific mitigation action as Implementation Plans
 - International supported NAMA = supported NAMA
 - Country may receive support in form of: Finance, Technology and Capacity Building
 - Domestic supported NAMA = unilateral NAMA
 - NAMAs implemented by countries their own resources and capacities
- Country are required to report through BUR information on planned and implemented NAMAs – description, outcomes and its GHG impacts
- A key Element of all NAMAs is Measurement, Reporting and Verification (MRV)
 - All NAMAs will be subject to domestic MRV.
 - A robust and reliable assessment of GHG impacts of NAMAs and its MRV is critical to assess the effectiveness of action and countries contribution to deviation from BAU
- Domestic MRV will be based on country requirements developed in accordance with general guidance for Domestic MRV being developed under UNFCCC.
- MRV of supported NAMAs may also be influenced by requirements of entity providing international support.
- Key is ensuring transparent assessment and reporting of impacts.



India



India's Voluntary Commitment to UNFCCC

1. 20-25% reduction in emission intensity relative to 2005
2. Per Capita Emissions Below OECD Average
3. MRV/ICA of Domestic Actions (India's Proposal at Cancun)

India's National Climate Change Action Plan: Implementation Strategy

India's Climate Change National Action Plan (NCCAP): Implementation Strategy

8 National Missions of NCCAP

- **Solar Energy** (20 GW Grid Solar by 2022; 20 million sq. meter collectors)
- **Enhanced Energy Efficiency** (Avoided capacity: 19000 MW by 2014-15)
- **Sustainable Habitat**
- **Water Sector** (20% water use efficiency improvement)
- **Sustaining the Himalayan eco system**
- **A "Green India"** (20 Mil. Hectare forestation by 2020; Forest cover from 23 to 33%)
- **Sustainable Agriculture** (Micro irrigation promotion in 40 Mil. Hectare)
- **Strategic Knowledge for Climate Change**

Implementation of Domestic Actions

- **Carbon tax on coal to fund clean energy**
 - US \$1/ton on domestic & imported coal; fund to be used for Clean Energy
- **Enhanced Energy Efficiency measures**
 - Mandate to reduce specific energy consumption;
 - Energy savings certificates & trading
 - Energy efficiency ratings mandatory for 4 key appliances from Jan 2010
 - Reduction of 6 GW of electricity demand through mass distribution of CFLs
- **Renewable Energy Push**
 - Capital Subsidies and/or Preferential Feed-in Tariff
 - Renewable Energy Certificates Market
- **Mission on sustainable habitat**
 - Energy efficiency in residential, commercial and urban transportation
 - Managing water, wastewater and solid waste with recycling, reuse and energy creation

NAMAs for India: Linking top-down and bottom-up

Global Actions Initiatives

- Global climate negotiations
- Finance for NAMAs
- Lessons from International best practices

National Targets /Policies

- National Action Plan on Climate Change
- 20-25% intensity reduction by 2020
- Biannual Reporting

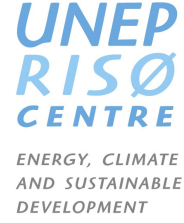
Scale up Local Initiatives

- Technical support for energy efficiency, LCMPs, etc.
- Leverage finance
- Local benefits- mobility, environment, green growth



Opportunities & Challenges for Cities

- India's transport emissions will increase four fold by 2030 (IEA)
- Significant Mitigation Opportunities exist for urban transport projects to qualify as NAMAs
- Funding Gap for Urban transport projects
 - High cost of infrastructure
 - Limited funding capacity of local governments
- Barriers
 - Institutional Capacity
 - Reliable data on transport indicators at local level
- Develop LCMPs with full costs and co-benefits; short term and long-term measures; key mitigation opportunities



Thanks You





Extra Slides



Transport NAMAs – e.g. i

1. Project
2. Policy / Program
3. Strategy / Plan

- **Ethiopia:** Intra-urban Electric train in Ethiopia: Shift 50% cargo transported by road to electric rail through eight routes connecting the main economic hubs of the country. The electricity used will be generated from renewable energy.
- **Indonesia:** Sustainable Urban Transport Initiative in Indonesia: Promoting sustainable urban transport in Indonesian Cities with the implementation of low-carbon mobility plans in three cities(Medan, Menado, Batam) as well as supporting policies/regulations at the national level.
- **Transport demand Management in Jakarta, Indonesia:** Implementation of additional and/or improved TDM measures, including electronic road pricing, parking restraint, improvements in public transport (particularly bus rapid transit).
- **Brazil :** Comprehensive mobility plan for Bela Horizonte, Brazil - Objective is to increase the share of non-motorized and public transport to generate reductions in GHG emissions from urban transport and improve conditions of transport and the local environment. This will be achieved through: enhancement of public transport (BRT and metro); Metropolitan fare integration; Construction of infrastructure for non-motorized transportation; and, Combined land use and parking policies.

Transport NAMA e.g. ii

- **Mexico:**
 - **Freight transport NAMAs:** Renovate freight transport fleet and adopt strategies, technologies and best practice to reduce emissions from Freight transport
 - **Optimization of the conventional bus system in Mexico City** - Establishment of the appropriate institutional and regulatory framework needed for the optimization of the bus system; Implementation of changes in the bus systems, such as the reorganization of routes and concession management; Public awareness raising and outreach; and, Implementation of a transport monitoring system.
- **Columbia:** Electric vehicles for Columbia: Objective is to substitute conventional vehicles with electric vehicles. The penetration of electric vehicles should reach 20% for the passenger sector, 30% for taxi fleets and 30% for urban freight
- **Chile:**
 - **Programme for energy efficiency in transport sector:** promotion of energy efficiency in the transport sector to reduce GHG emissions and to secure sustainable cargo and passenger transport through: Aerodynamic improvements of vehicles; Capacity building on efficient driving; Best practices for vehicle maintenance; and Improved fleet management.
 - **Integrated transit management system for cities** : Implementation of transit management measures in cities to improve the overall flow of traffic and to reduce GHG emissions through: Analysis and development of transit management systems; and, development of traffic calming areas.
 - **E-mobility readiness plan** : To promote the introduction of grid-enabled electric vehicles in Chile on a large scale, leading to a target of 70,000 electric vehicles by the year 2020. The plan foresees the implementation of a set of activities to target barriers and provide incentives to achieve the overall target through: Market creation, Charging infrastructure; and, Research and development

Transport NAMA e.g., iii

- **Serbia:** Rehabilitation of arterial roads in Serbia: Improving the road quality of 19 different arterial road sections throughout Serbia to enable a traffic speed of 60 km/h which will be result in reduced fuel consumption.
- **Lebanon:** Public transport development in Lebanon: The programme will undertake the following set of activities: Revitalization of the public transport system in greater Beirut through improvements in the public bus fleet and the implementation bus rapid transport system. The objective is to reach a level where 50% of passenger-trips are travelled by public transport; Old car replancement programme (40 000 old vehicles); Development of intercity rail connection between the north of the country and Beirut.
- **Laos:** Feasibility study of public transport in Vientiane, Laos: Implement the Sustainable Transport Strategy as well as the Master Plan on Comprehensive Urban Transport of Vientiane. The objective is to develop transport system and reduce emissions through road network development, public transport development (BRT) and traffic management and safety.
- **Argentina:** Modernize the Freight train infrastructure in Argentina: Modernize the freight infrastructure of the Belgrano Cargas freight rail system and promote a modal shift from trucks to rail for agricultural products. Argentina aims to increase rail share of freight transport from 2% to 20% by 2020, displacing less efficient and higher CO2 emitting truck transportation with more efficient rail transport

NAMA Examples – Other Sectors

- Chile: National Program for catalysing Industrial and Commercial Organic Waste Management in Chile
- Cook Islands - Supporting Implementation of 100% Renewable Electricity by 2020
- Uruguay: First introduction of Photovoltaic Solar Energy in the national electrical grid.
- Serbia: Replacement and Construction of a New Natural Gas Cogeneration Plant CHP Novi Sad