

# *Integrating SLCP Mitigation into MSW Management*

CCAC Municipal Solid Waste Initiative Workshop  
Sao Paulo, September 11, 2014

Nimmi Damodaran  
Stratus Consulting Inc.



# Key sources of SLCP emissions from the MSW sector

## ✓ Methane

- Anaerobic decomposition of organic waste in landfills and open dumps

## ✓ Black carbon

- Open burning of waste
- Waste collection and transportation vehicles
- Waste handling equipment
- Waste incinerators



# How do we Reduce SLCPs from the Municipal Solid Waste Sector?

- ✓ Reduce waste generation
- ✓ Improve waste collection
- ✓ Promote organic diversion programs: composting and anaerobic digestion
- ✓ Institute recycling programs
- ✓ Use landfills and waste to energy as final disposal options
- ✓ Address open burning
- ✓ Implement sustainable financing systems



# CCAC MSW Initiative Typical Process

- ✓ Conduct scoping missions
- ✓ Collect city-specific information using detailed questionnaires
- ✓ Develop action plan with broad goals
- ✓ Develop work plan with specific tasks
- ✓ Implement the specific tasks identified in the work plan
- ✓ Exchange information in workshops (global and regional)



# CCAC MSW Initiative Typical Process

- ✓ Conduct scoping missions
- ✓ Collect city-specific information using [detailed questionnaires](#)
- ✓ Develop action plan with broad goals
- ✓ Develop work plan with specific tasks
- ✓ Implement the specific tasks identified in the work plan
- ✓ Exchange information in workshops (global and regional)



# CCAC MSW Initiative Typical Process

- ✓ Conduct scoping missions
- ✓ Collect city-specific information using detailed questionnaires
- ✓ Develop [action plan](#) with broad goals
- ✓ Develop work plan with specific tasks
- ✓ Implement the specific tasks identified in the work plan
- ✓ Exchange information in workshops (global and regional)



# Potential priorities

## ✓ Waste collection and transport

- Improve collection rate
- Optimize collection routes
- Address staff efficiency
- Use fuel efficient vehicles

## ✓ Organics management

- Assess waste for composting and anaerobic digestion
- Improve facility operations
- Conduct market assessments



# Potential priorities (contd.)

## ✓ Disposal

- Close dump sites
- Design sanitary landfills
- Improve landfill operations
- Assess feasibility of landfill gas to energy projects
- Manage leachate

## ✓ Other

- Prevent open burning
- Improve waste management planning
- Conduct public outreach





# CCAC MSW Initiative Typical Process

- ✓ Conduct scoping missions
- ✓ Collect city-specific information using detailed questionnaires
- ✓ Develop action plan with broad goals
- ✓ Develop work plan with specific tasks
- ✓ Implement the specific tasks identified in the work plan
- ✓ Exchange information in workshops (global and regional)



# Examples of work plan activities

- ✓ Improving landfill maintenance and operations
  - Capacity-building trainings
  - Site visits to identify best practices that can be employed
- ✓ Improving organic waste management
  - Compost feedstock source assessments
  - Organic waste management project economic assessments
  - Compost marketing assessments



# Examples of work plan activities (contd.)

- ✓ Capturing and using landfill gas
  - Assessments to determine landfill gas recovery potential
- ✓ Improving waste collection efficiency
  - Networking with experts to build local capacity
  - Results-based financing mechanism assessments
- ✓ Improving waste transportation efficiency
  - Capacity building (e.g., eco-driving trainings)
  - Waste transportation logistics assessments (e.g., transfer station siting)



# CCAC MSW Initiative Typical Process

- ✓ Conduct scoping missions
- ✓ Collect city-specific information using detailed questionnaires
- ✓ Develop action plan with broad goals
- ✓ Develop work plan with specific tasks
- ✓ Implement the specific tasks identified in the work plan
- ✓ Exchange information in workshops (global and regional)



# CCAC MSW Initiative Typical Process

- ✓ Conduct scoping missions
- ✓ Collect city-specific information using detailed questionnaires
- ✓ Develop action plan with broad goals
- ✓ Develop work plan with specific tasks
- ✓ Implement the specific tasks identified in the work plan
- ✓ Exchange information in workshops (global and regional)



# Key CCAC-MSW Initiative Activities

- ✓ Develop SLCP emissions baseline
- ✓ Optimize waste collection
- ✓ Increase organic waste diversion
- ✓ Increase recycling
- ✓ Enhance landfill operations
- ✓ Promote methane recovery and use



# Contact Information

Nimmi Damodaran

[ndamodaran@stratusconsulting.com](mailto:ndamodaran@stratusconsulting.com)

