

Integrating Climate Change in Local Governance: The Case of Baguio City, Philippines



A presentation by:

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Outline of Presentation

1. Brief Profile of the City
2. Environmental Situation
3. The Integration Process of Climate Change in Local Governance
 - Development Vision
 - Environmental Policy Framework
 - The Cities for Climate Protection Campaign of ICLEI
 - Environment Sector Plan

4. Implementation
5. Barriers and Challenges
6. Lessons Learned



Baguio City



- Summer Capital of the Philippines
- 250 km north of Manila
- Land Area: 5,749 hectares

BAGUIO CITY



Baguio City



- 1,500 meters above sea level
- mean normal temperature of 18°C
- tourist, educational, and economic growth center of the Cordillera Administrative Region (CAR), in northern island of Luzon in the Philippines
- home to more than 270,000 residents.



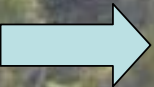
ENVIRONMENTAL SITUATION



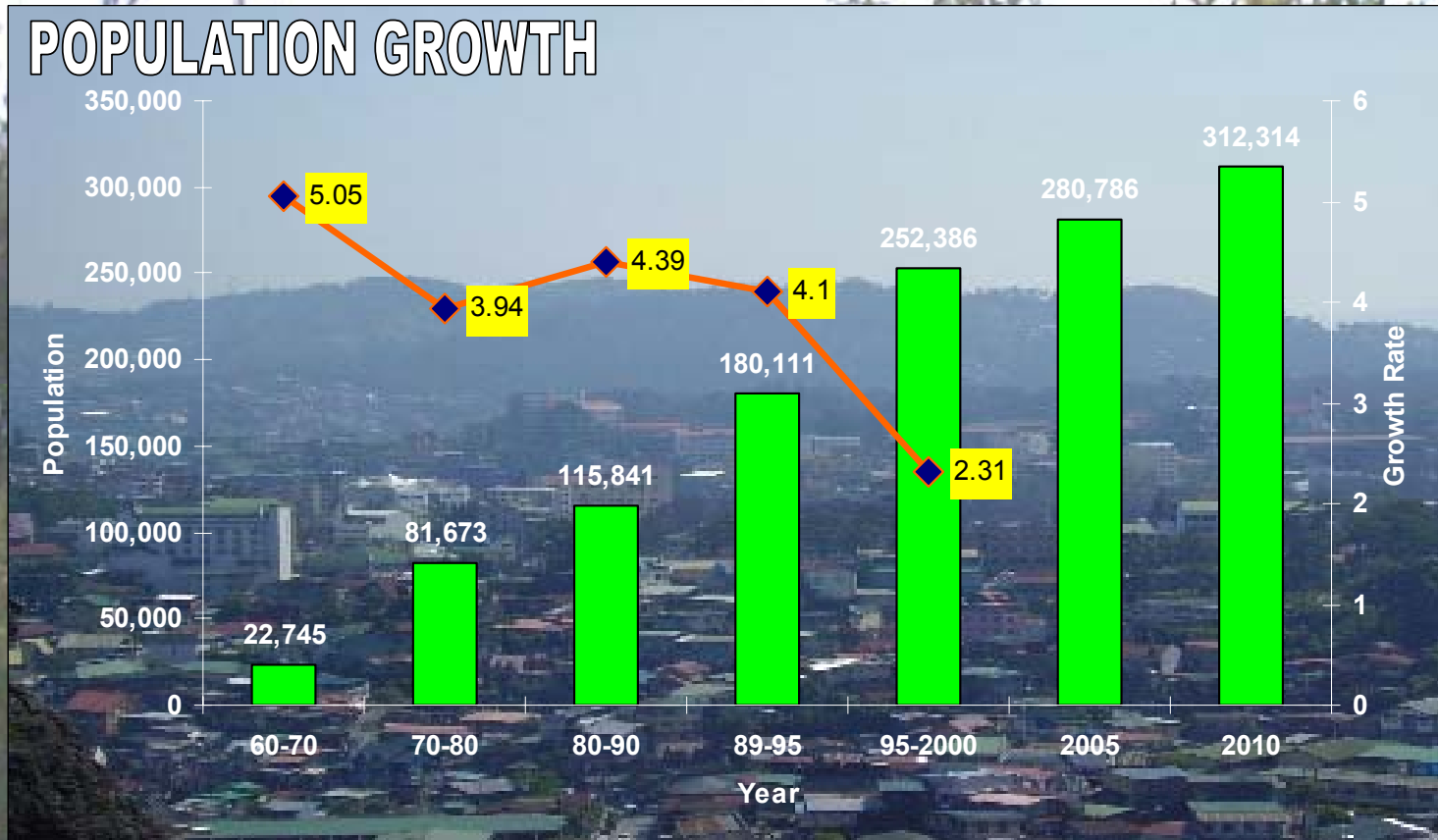
Baguio in the 1900s . .



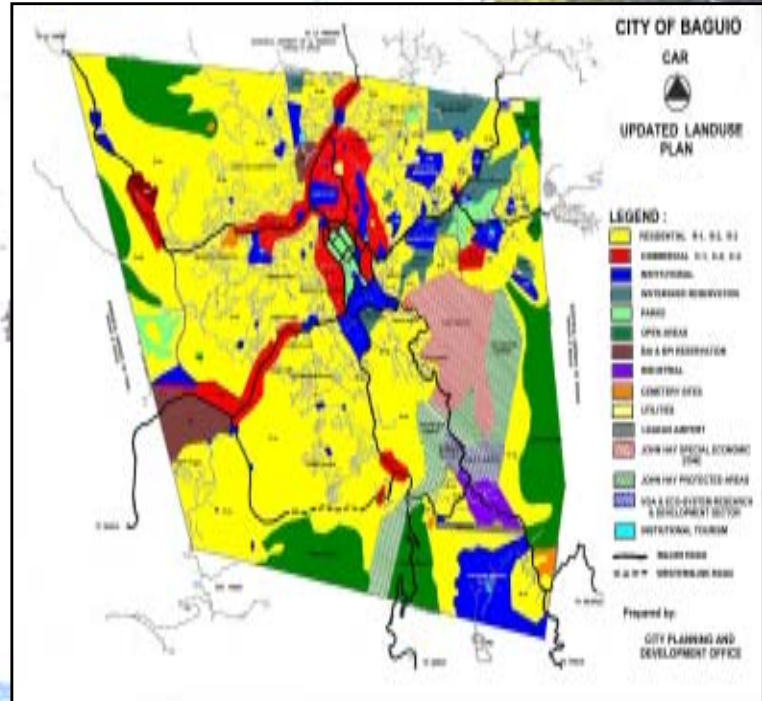
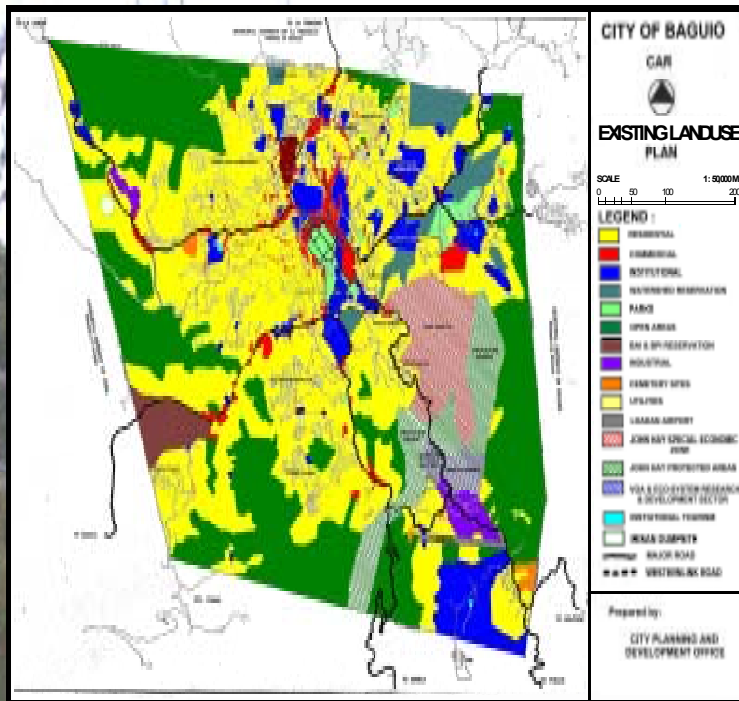
Baguio today



DEMOGRAPHIC ANALYSIS



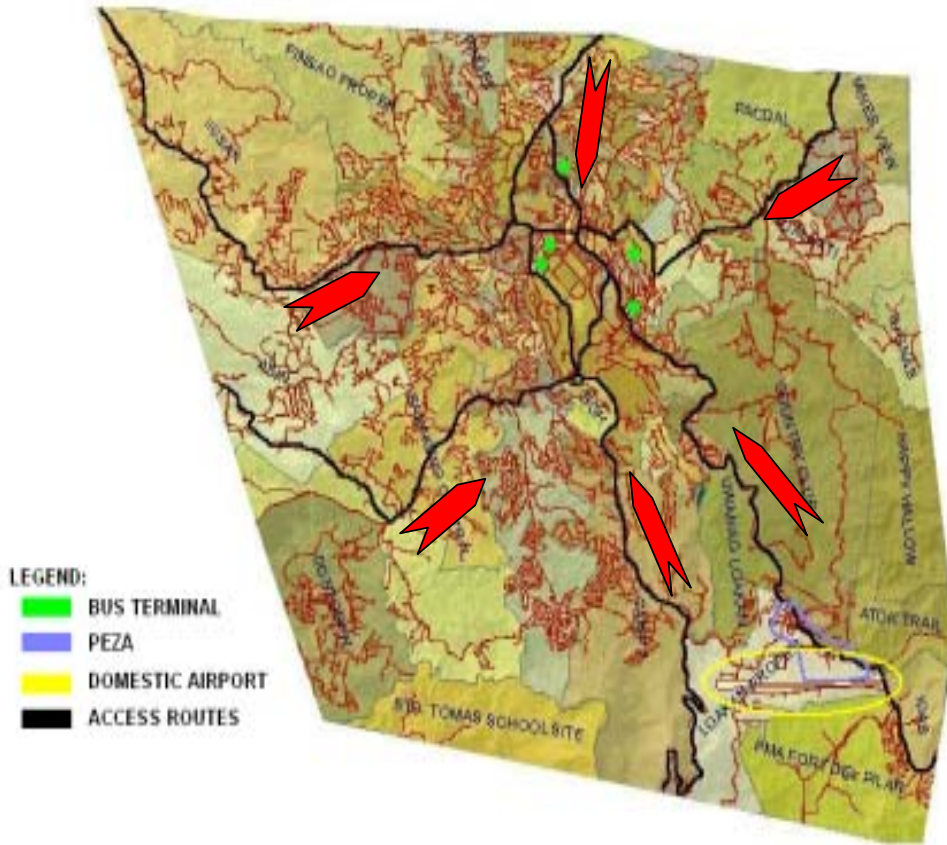
POPULATION DENSITY



2005 Population : 280,756
Residential Area : 1,760.96 Hectares
Density per Hectare : 159.43

2008 Population : 299,286
Residential Area : 2,784.76 Hectares
Density per Hectare: 107.72

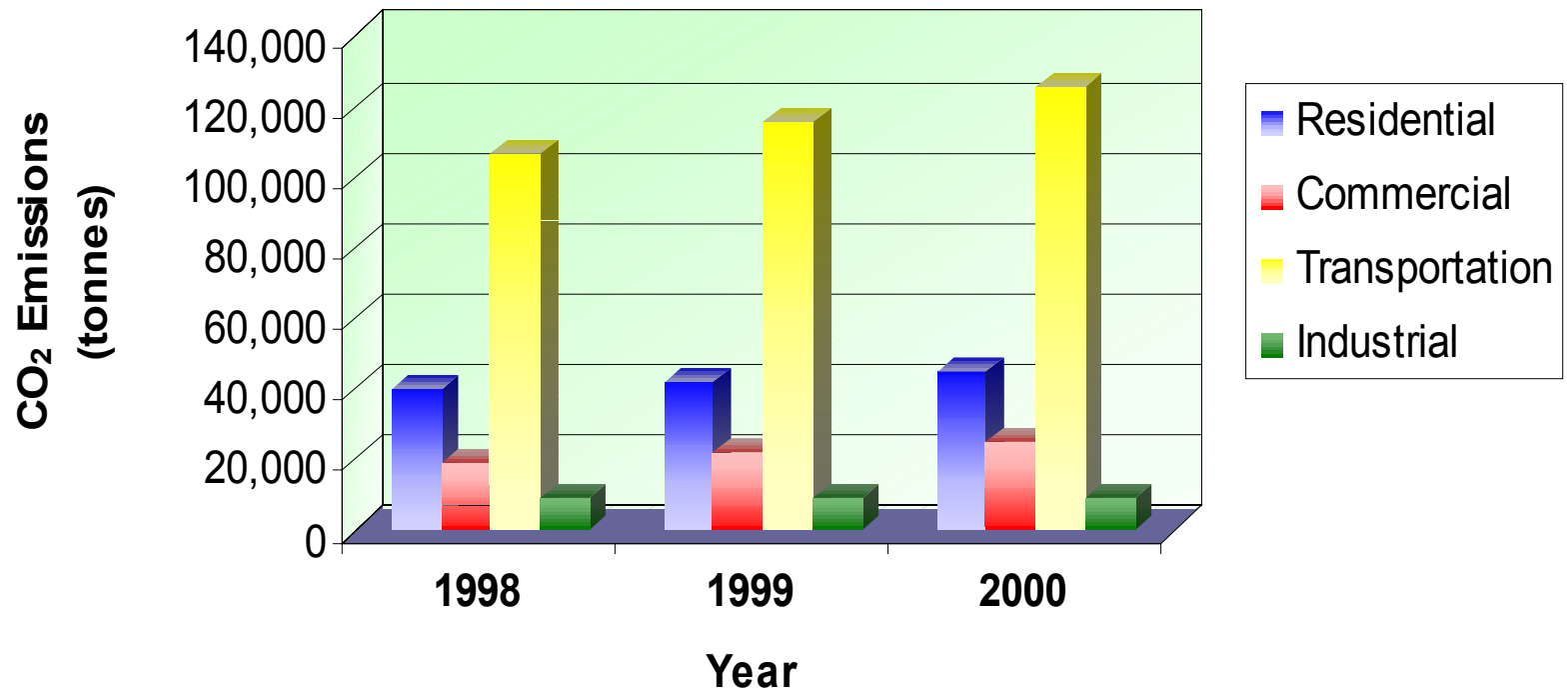
Accessibility and Road Network



The City has a radial road network. All traffic converges at the CBD (7.1 km. road length)

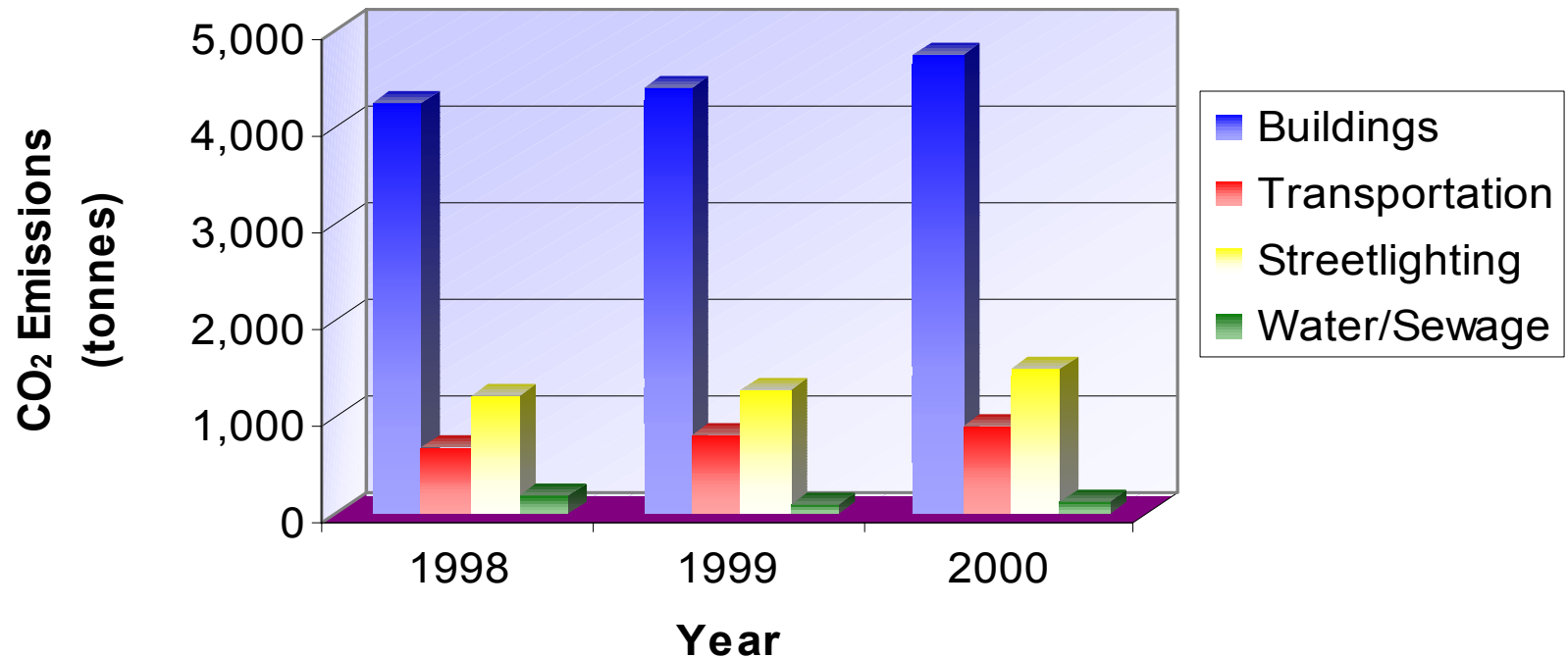
CO2 Emissions

Community Analysis CO₂ Emissions



CO2 Emissions

Corporate Analysis



Comparative Summary of GHG Emission in the City

	1998	1999	2000	2010
Residential	40,539	41,871	45,055	101,094
Commercial	19,428	22,257	25,504	85,694
Industrial	9,498	9,224	9,008	6,911
Transportation	106,898	116,094	126,097	290,134
TOTAL COMMUNITY	176,363	189,446	205,663	483,834
	1998	1999	2000	2010
Buildings	4,258	4,402	4,764	8,399
Transportation	688	801	922	3,304
Streetlighting	1,233	1,289	1,511	93,249
Water and Sewage	178	95	134	61
TOTAL CORPORATE	6,357	6,587	7,331	105,012
Baguio Total	182,720	196,033	212,994	588,845

Registered Motor Vehicles

AGENCY	TYPE OF MOTOR VEHICLE							TOTAL
	CARS	UTILITY V	SUV	TRUCKS	BUSES	MC/TC	TRAILERS	
Baguio City	7,792	13,385	318	965	89	681	6	23,236
La Trinidad	1,508	6,683	106	1,666	196	178	6	10,343
TOTAL	9,300	20,068	424	2,631	285	859	12	33,579

Data Source: DOTC-LTO Management Report for January-November 2005.

**motor vehicle population grows at a rate of 12.5% per year,
the number of vehicles is doubling every 5.75 years**

Integration Process of Climate Change in Local Governance

DEVELOPMENT VISION

“We want a progressive, peaceful and healthy environment for Baguio - A center for education, trade and family-oriented tourism - managed by God-loving and strong-willed leaders in partnership with self-reliant and disciplined citizenry.”

Baguio City Environment Policy

The City Government of Baguio, mandated to sustain its city as an eco-cultural tourist destination and nature city, commits to sustainable,

- Growth and conservation and preservation of its natural resources
- Prevention of air, land and water pollution, and
- Compliance with relevant environmental regulations and requirements



To provide the framework, the City Government of Baguio shall undertake the following:

- Formulation, enactment and implementation of relevant environmental legislations and regulations
- Encourage people's active participation to attain sustainable development
- Promotion and use of environment-friendly, appropriate and cost effective technologies
- Incorporation of best environmental practices in the promotion of investment and development of livelihood projects; and
- Enhancement of safe and healthy working environment

ICLEI'S Cities for Climate Protection Campaign

- Baguio participated in the campaign in 1999 and have undertaken the 5 milestone process.
- The campaign works with local governments to:
 1. Understand how local actions and practices contribute to the emissions that cause air pollution and global warming
 2. It strengthen local capacity to develop plans and implement actions to cut local emissions; and
 3. Network participating cities share best practices that improve urban management and address economic, environmental and social concerns.

The background of the slide is a photograph of a lush green forest. In the distance, a valley or town is visible through the trees, with a blueish-grey hue. The sky is bright and slightly overcast.

The Environment Sector Plan

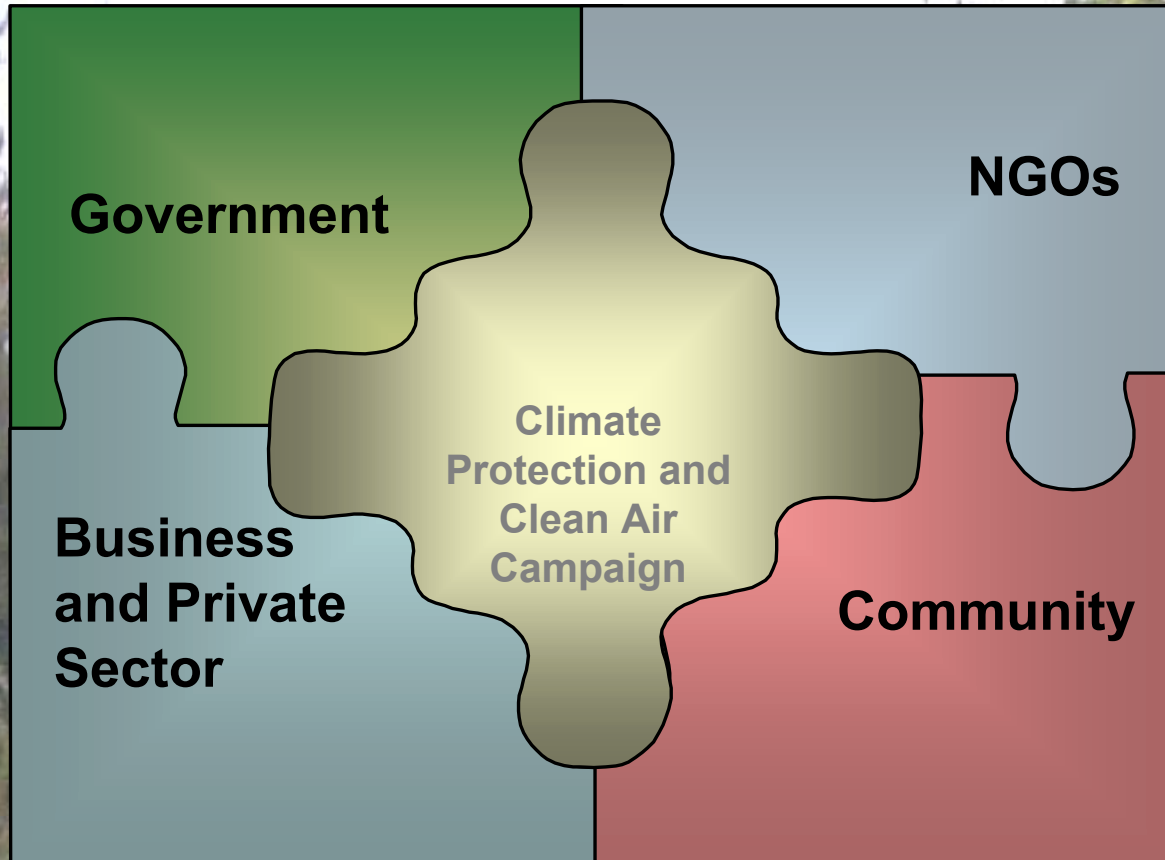
- Ordinance No. 337, series of 2001 adopted the Medium Term Development Plan of City. The Environment Sector Plan pegged the reduction target of at least 10 percent of GHG based on emission forecast.

Implementation

Strategies and Approaches:

1. Participatory
2. Integrated
3. Holistic
4. Application of Polluters Pay Principle

A Multi-Stakeholder Initiative



Local Policies Adopted on Climate Change vis-a-vis Clean Air

- Adopted the 5 E's in Traffic Management (Engineering, Education, Enactment, Enforcement and Environment)
- Ordinance 051-2001 Comprehensive Land Use Plan, approved by the HLRB, Dec. 17, 2003
- Adopted the energy policy formulated by the ASEAN – EC Energy Management Training and Research Center as the energy policy of the City of Baguio
- Res. 061-99 adopting the guidelines for a modern solid waste disposal system
- Compliance to the Clean Air Act and Solid Waste Management Act

Number Coding Scheme: A means to reduce traffic and GHG emissions



- 20% reduction of vehicles plying the City roads
- 20,229 tons of eCO₂ or a reduction of 8.59 percent of the forecasted emissions
- Fuel and Fiscal Savings
 - Gasoline Fed – 104 Ltrs. or \$43.40
 - Diesel Fed – 104 Ltrs. Or \$33.80
 - Annual fuel savings of 8,007,792 and financial savings of \$2,815,671

Materials Resource Recovery



Recycling and Composting for Solid Waste Management



- **Green Charcoal Production**
- **1.8 Tons/Mo. Reduction of garbage or 0.72 ton of CO₂ reduction**
- **1.8 tons production of Green charcoal equivalent to Php36,000/mo. Income**
- **Composting**
- **30 MT/day or 28.49 Tons of eCO₂ reduction**
- **Paper Banking (13 % of Total Solid Waste)**
- **30.16 Tons or 28.64 tons of eCO₂ reduction**
- **In Transit Waste Segregation**
- **2.38 MT/day or 2.6 Ton of eCO₂ reduction**

Reforestation

- **Planted 288,000 seedlings from 1999 to 2005 or 2304 Tons of eCO₂ sequestered**



LGU Energy Conservation

A 10 percent reduction in consumption would mean a savings of 1.28 M for electricity and 1.04 Million for petroleum and petroleum based products. 1,608 Tons of eCO₂ will be reduced.

- **Austerity measures**

Methane Capture

- Bio-gas Production at the City Abattoir will result to a methane capture of 613.795 tons of CH₄ will result to 12,889.695 ton of eCO₂
- Solid Waste

Eco-Procurement



- Procurement of Energy Efficient Equipments and Fixtures
- Environment Friendly Technologies

Eco-Procurement



Renewable Energy

- Upgrading of the City Owned Mini Hydro
- Waste to energy

Green Buildings/Green Template Design



- This is already embodied in the Land Use Plan of the City
- Landscaping of Roof Tops to increase CO₂ sequestration within the CBD
- Integration of Energy Efficiency in Building Designs
- Provision for Rainwater Capture

Clean Cities Program

Promotion of the Use of Alternative Fuels
“Green Fleets” Project



A partnership with
the Philippine
Department of
Energy and US
Department of
Energy with
support from
USAID

Many Hands, Make Light Work



Barriers and Conflicts

- Changing the mindset of people
- Political Climate – plays a pivotal role in decision-making and is largely dependent on political affiliations and agenda
- Lack of incentives for community participation
- Lax implementation of the law by concerned national offices
- Inadequate capacity of local staff to deal with Climate change

Results – Developing Partnership

- Technical Support from ICLEI
- Acquired support in the Clean Air Campaign project.
- Acquired commitment of the 5 locators in PEZA, Academe, JODA's and NGO's

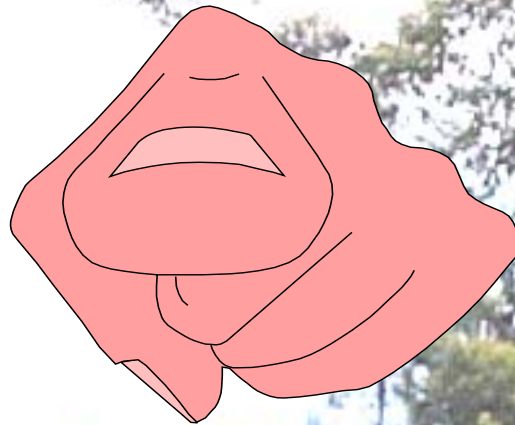
Impacts

- Generated concerted effort among City Gov't, business sector, civic groups in environment related activities.
- Capacitation and Livelihood Development
- Less exposure of the people to health hazards of pollution
- Improved air ambient quality
- Generated savings for the city

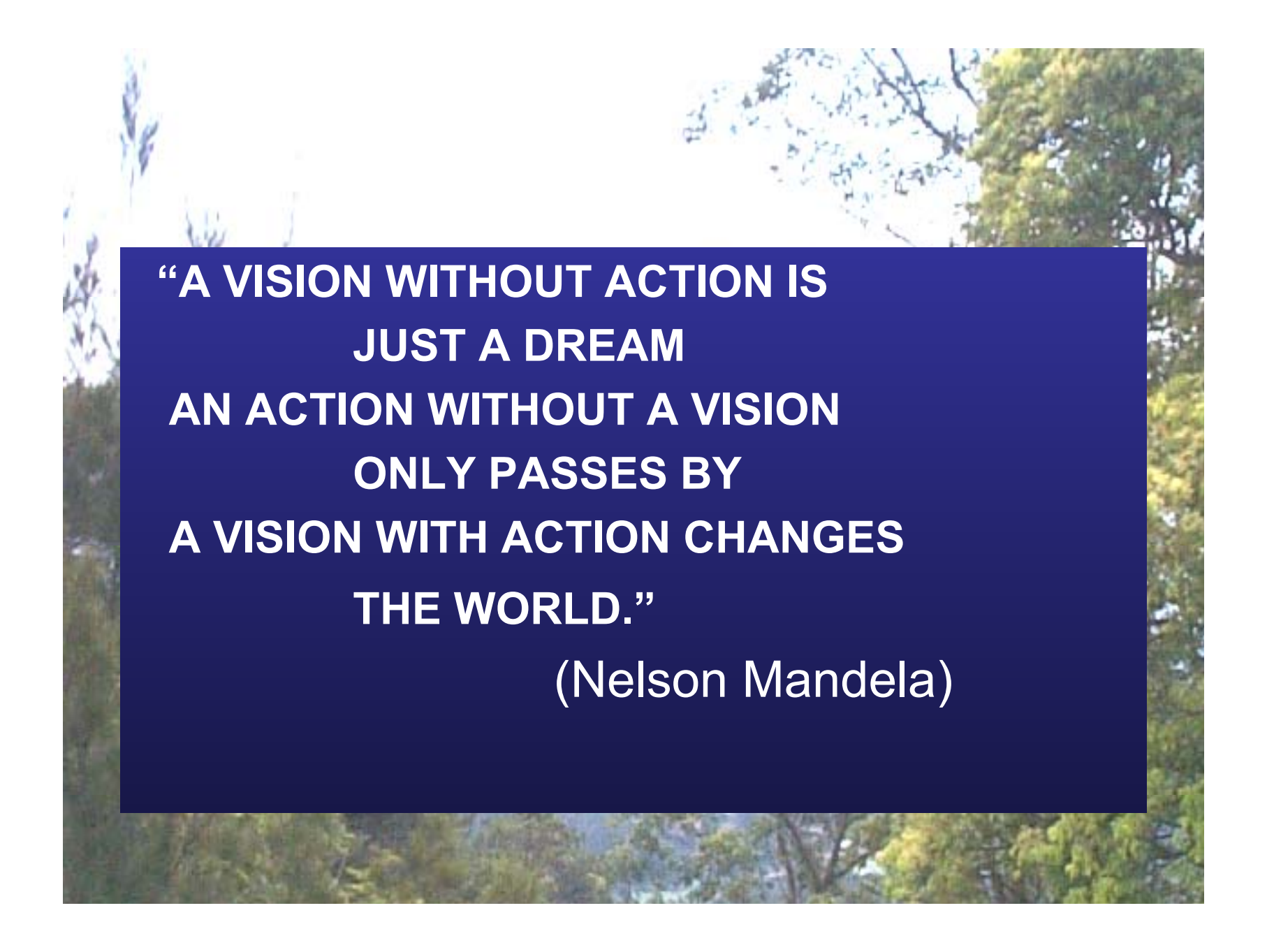
Lessons Learned

- Campaign contributed to the economic and social well being of the people
- Need for active partners in promoting clean air
- Comprehensive and relevant information is a key to better decision making at all levels of governance
- Evolving Program Champions
- Need for enhancing environmental management capabilities at the local level
- Need for enhancing information exchange
- Need for facilitating inter-LGU cooperation

Environmental Conscience
should be developed



EVERYONE IS A STAKEHOLDER



**“A VISION WITHOUT ACTION IS
JUST A DREAM
AN ACTION WITHOUT A VISION
ONLY PASSES BY
A VISION WITH ACTION CHANGES
THE WORLD.”**

(Nelson Mandela)

A scenic landscape photograph showing a valley with a winding river, surrounded by dense green trees and a bright sky. The text "Thank you." is overlaid in the center.

Thank you.