

# Clearing the Air In Nepal

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August 20, 2008



# Presentation Outline

- Clean Air Network Nepal In Brief
- Best Practices for Clean Air in Nepal
- Mass Education and Awareness Initiatives under Male Declaration



# Clean Air Network Nepal

- A network of professionals and organizations involved in AQM in Nepal
- Set up in 2004
- Local Country Network of Clean Air Initiatives (CAI-Asia) Center
- Secretariat at Clean Energy Nepal since 2006





# **CANN Mission :** Enable relevant stakeholders to tackle air pollution issues in Nepal

## **Objectives:**

- Sharing knowledge and experiences
- Policy inputs and advocacy
- Awareness activities
- Building local capacity
- Promote integrated AQM

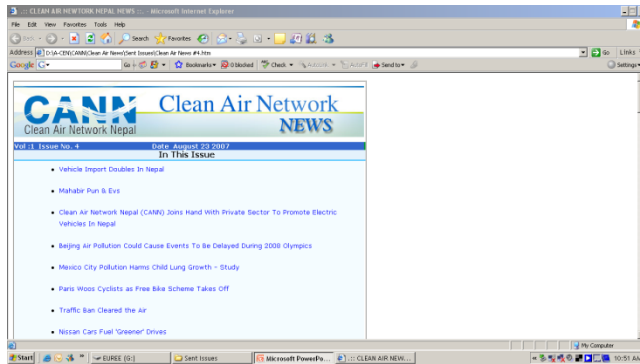


# CANN Strategy

- Local, national and international partnership and networking
- Research and development
- Documentation and Information dissemination
- Support the local initiatives for clean air
- Capacitate partners and relevant stakeholders
- Utilize national and international forum to raise support for clean air initiatives in Nepal



# Glimpses of CANN Activities



Fortnightly e-news and active list serve



Awareness program for youths and students



Building partnership with local government to introduce air pollution activities – Hetauda, Dharan, Pokhara, Waling Lalitpur , Kathmandu



Project for Market and segment and geographical diversification of EVs in Nepal in support with UNDP, SGP



# Concerns Regarding Air Quality in Nepal

- Indoor air pollution - major concern in rural areas
- Biomass supplies 85% of energy needs
- Only 15 % live in urban areas but rate of urbanization is very high
- Kathmandu's is among the most polluted cities in the world in terms of AQ

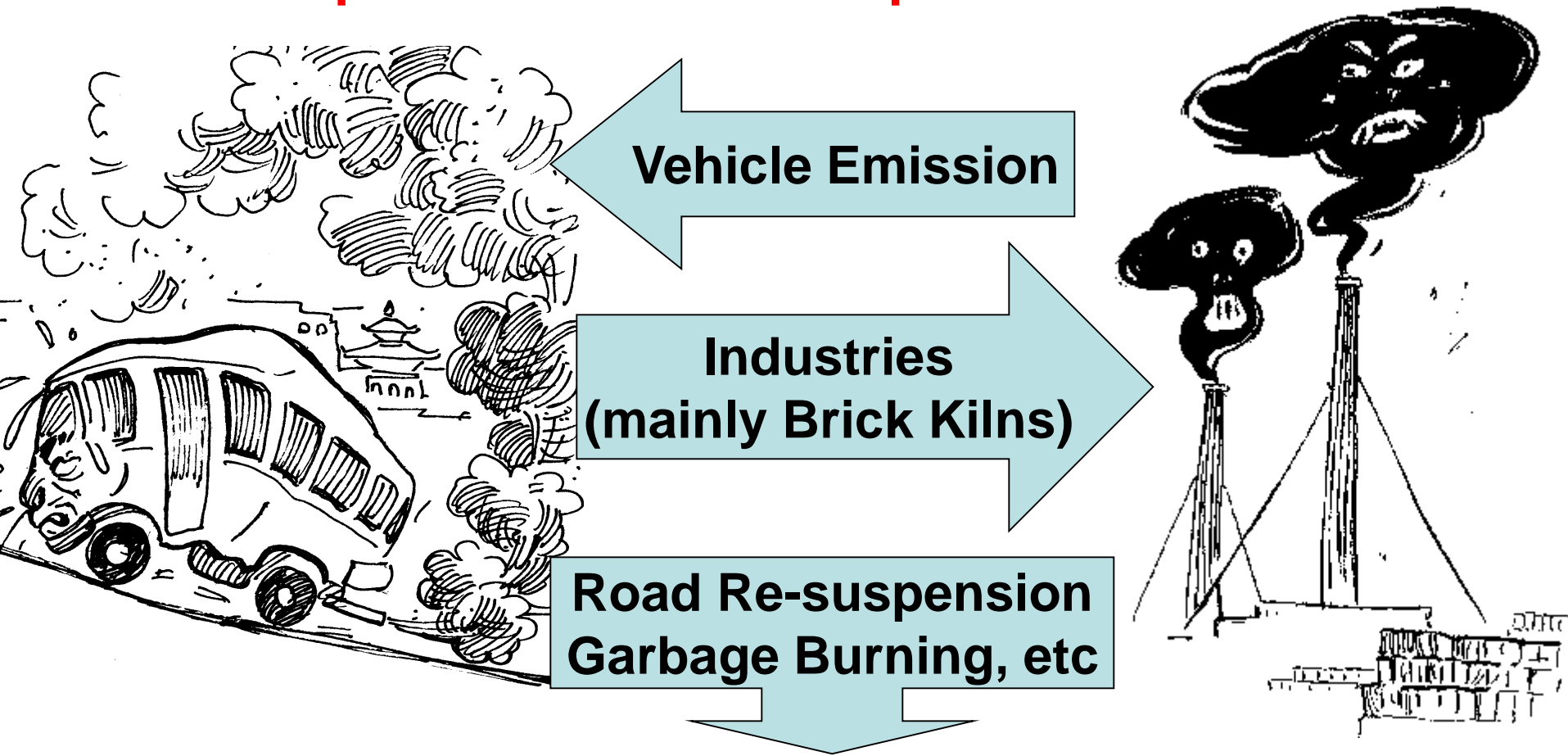


# Indoor Air Pollution

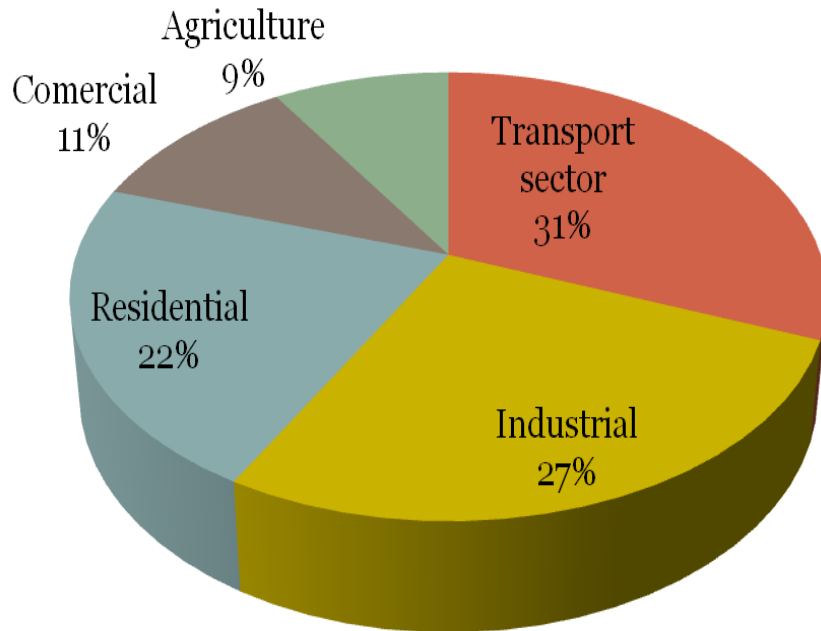


- Major problems
  - Solid fuels
  - Inefficient kitchen
  - Poor ventilation
- Affects mainly poor women and children
- Major health effects
  - Respiratory disorder
  - Cataract
  - Low birth weight

# The main sources of ambient air pollution in Nepal are...



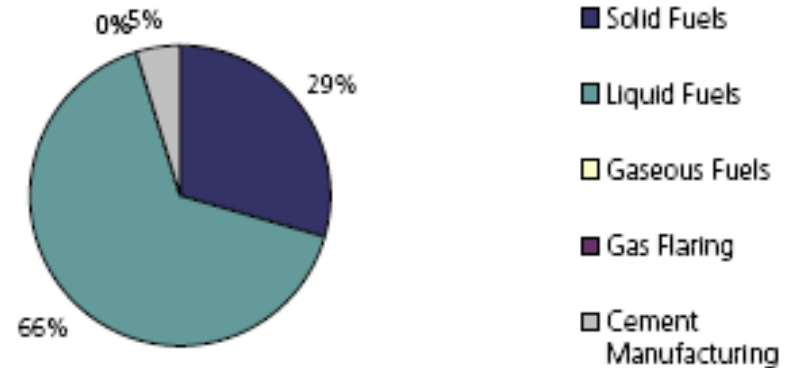
# Sector Wise GHG Emission by Consumption of Fossil Fuel (1994-95)



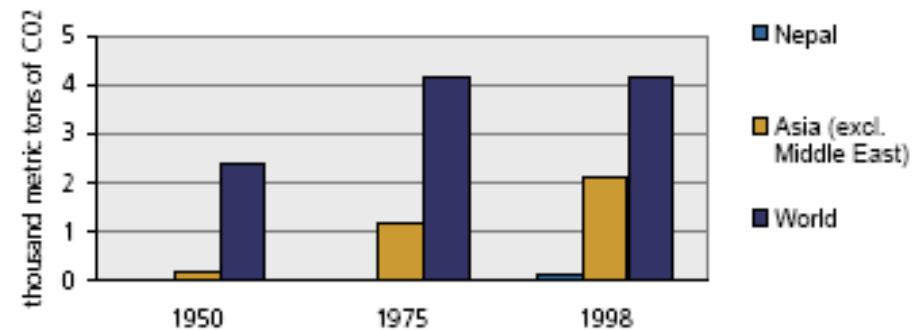
Source : MOPE (2004)



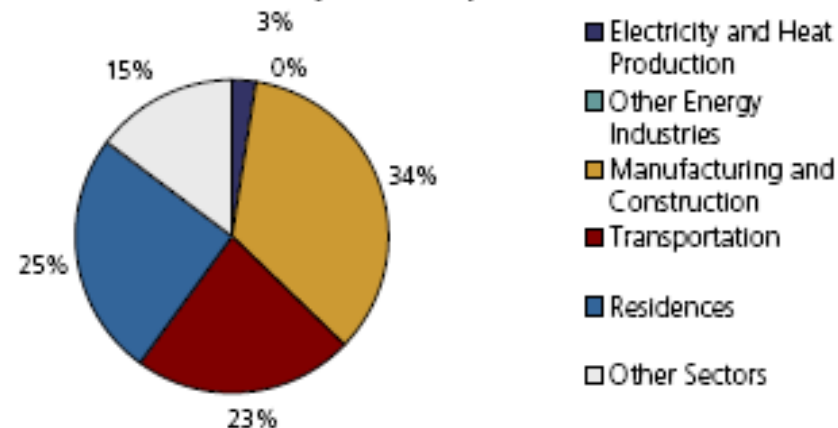
CO2 Emissions by Source, Nepal, 1998



Per Capita CO2 Emissions: 1950, 1975 and 1998



CO2 Emissions by Sector, Nepal, 1999





## BEST PRACTICE – 1

# Air Quality Monitoring in Kathmandu Valley

- Six Monitoring Stations
- Established in 2002 with support from Danish Government
- Data Capture: Over 90 %
- Operated by a private lab through competitive bidding



BEST PRACTICE 2

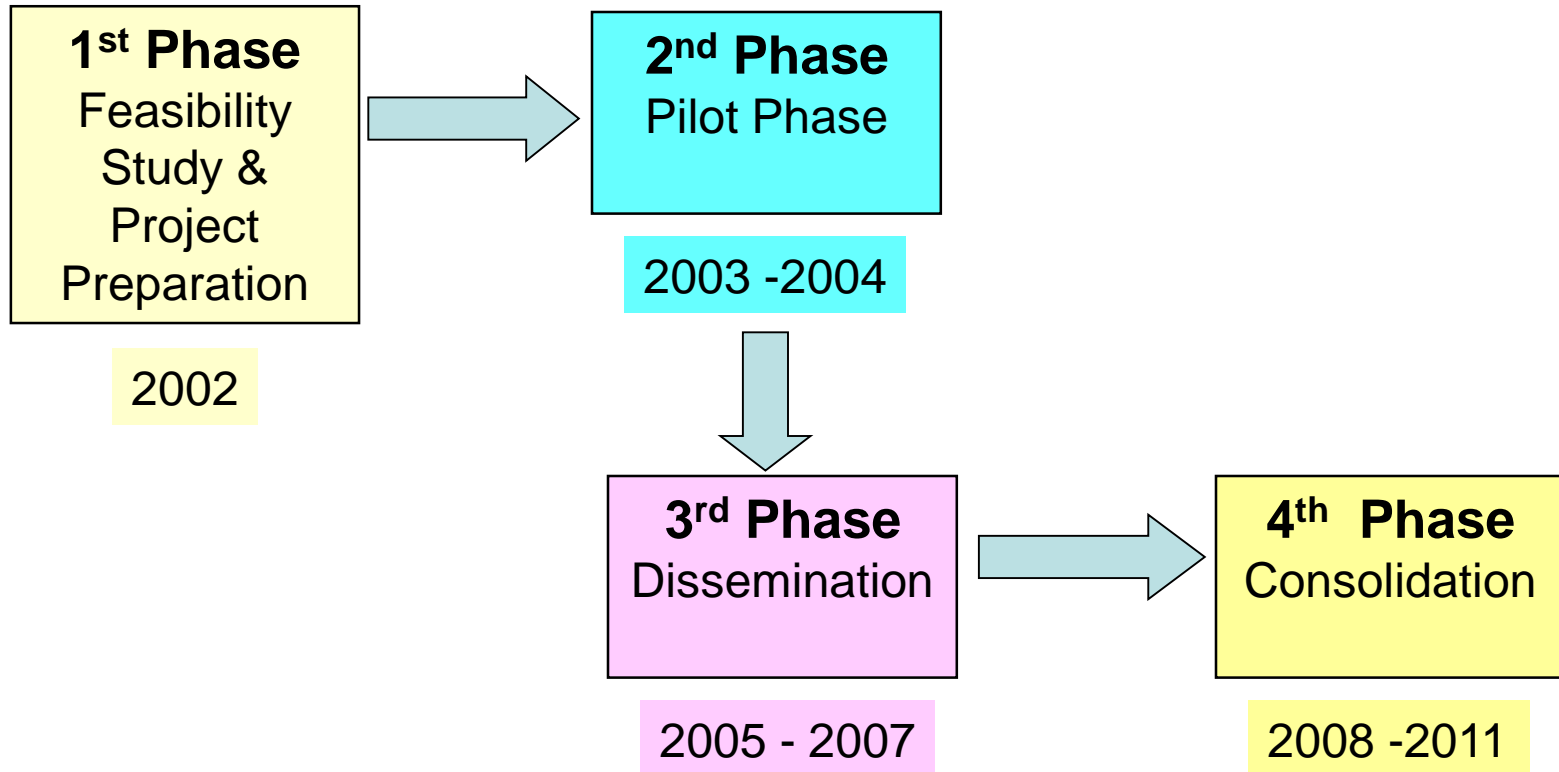
## Cleaner Brick Kilns



In 2003, old polluting brick kilns in Kathmandu Valley were banned by the government following significant protests from the local people

This was followed by the introduction of cleaner technologies, mainly Fixed Chimney & Vertical Shaft Brick Kilns (VSBK)

# VSBK technology transfer in Nepal



# What are the advantages of VSBK technology?



## Environmental benefits

80% less pollution than traditional kilns

20-30% savings in coal

50-60% reduction in CO<sub>2</sub> emission

No use of rubber and wood

VSBK can be established near to the city area



**CANN**  
Clean Air Network Nepal



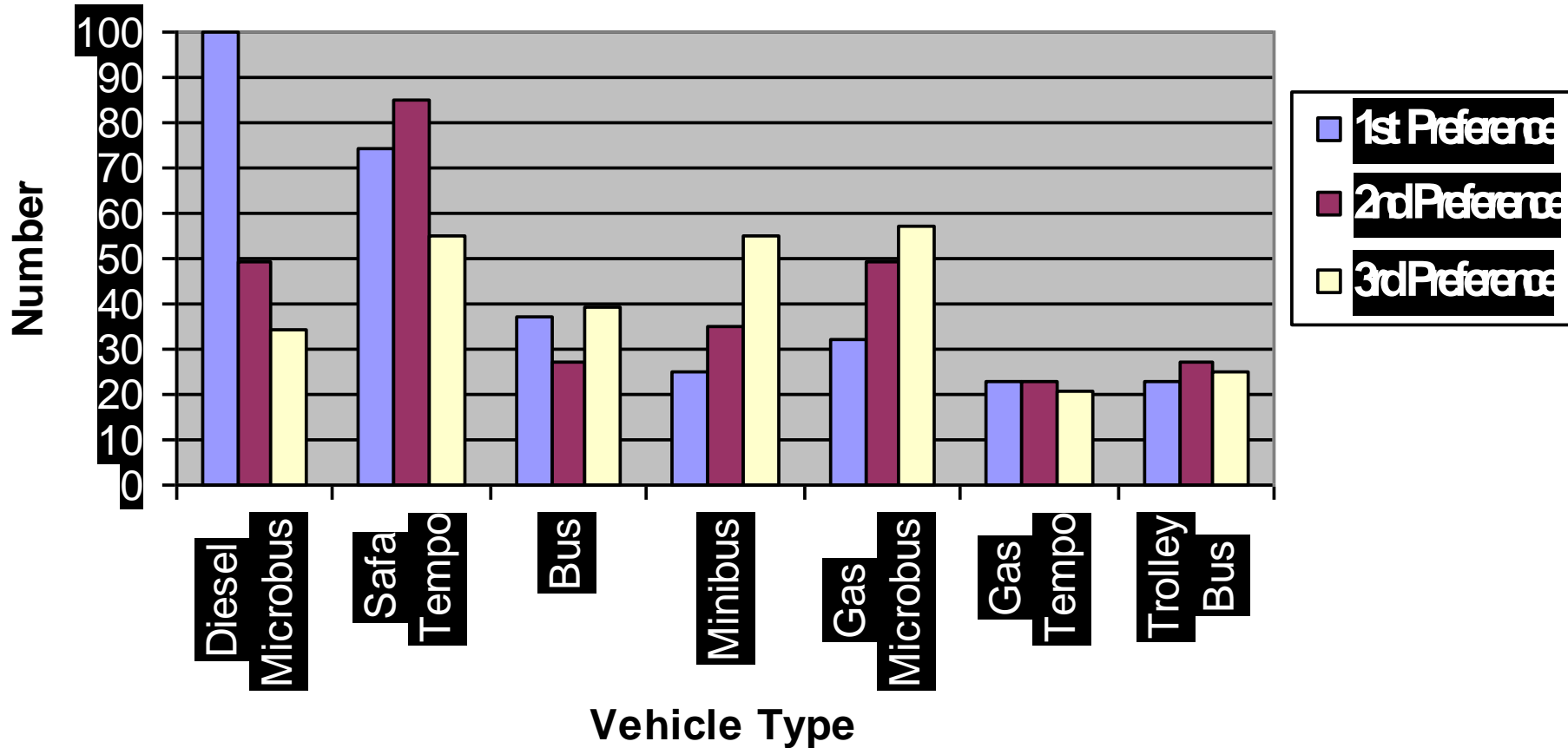


## BEST PRACTICE # 3

### Electric Vehicles

- Over 600 Electric Three Wheelers (Safa Tempo) provide public transport to over 100,00 people each day.
- Since 1975, electric trolley buses have been operating in Kathmandu
- New EVs are being developed

# Vehicle Preference of Public Transport Users



Electric Vehicles (Safa Tempo) is popular with riders as well



**Electric Mini Van Developed in Nepal**



**Second Generation “Safa Tempo” Developed in Nepal**



# Old Gasoline Vehicle converted into Electric System



# Barriers For EVs Industry In Nepal



Policy and regulatory



Public awareness and mass education

Technology and perceptions

Financing barrier

Market knowledge



# Market and Geographic Diversification of EVs in Nepal



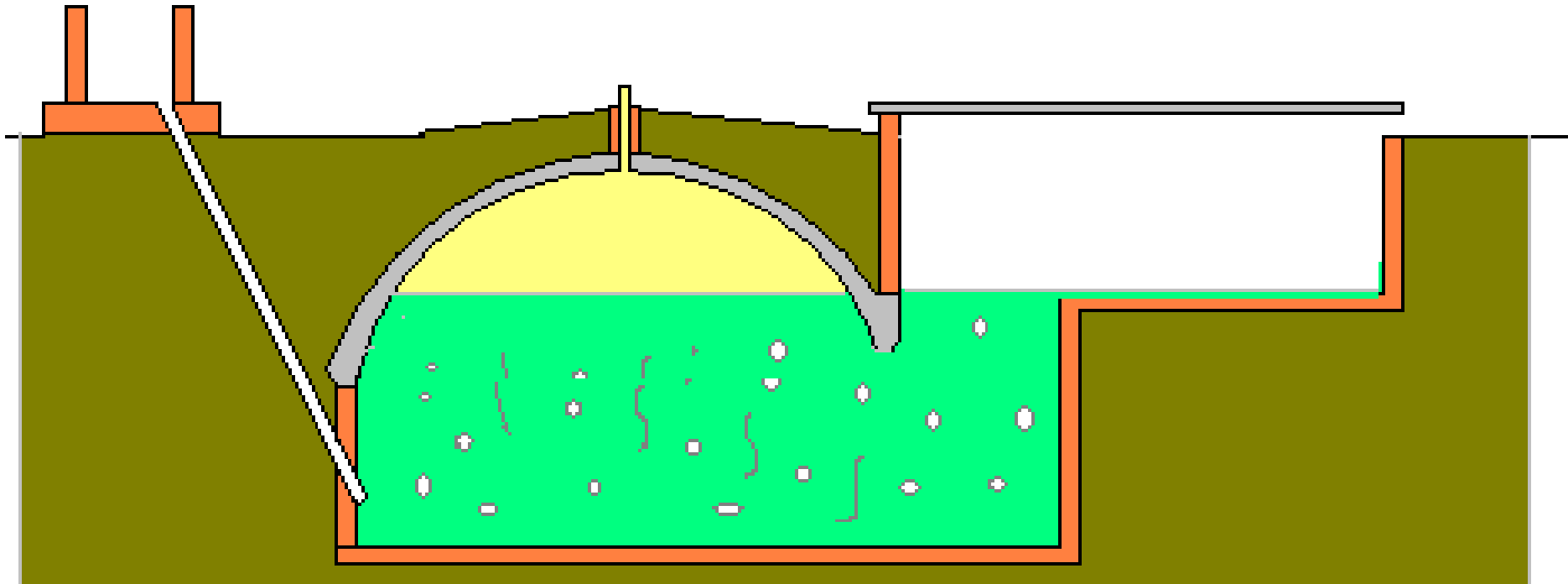


BEST PRACTICE # 4

**Improved Cook Stoves & Biogas for Indoor Air Pollution**

# Biogas

- More than 150,000 household biogas plants
- 97 % are working
- Well established system with private companies, quality control subsidy and financing mechanisms
- Has now been developed as a CDM project



# AQM Challenges

- Extensive use of Biomass for cooking
- High concentration of PM10 in urban areas
- Rapid increase in vehicle numbers
- Poor fuel quality
- Weaknesses in the I&M system
- Transport planning and management
- Institutional weaknesses

Although challenges seem immense,  
the solutions are also in front of us

# Opportunities for AQM

- Technologies such as Biogas and ICS can significantly reduce indoor air pollution
- Some progress has been made in the brick industry need to follow it up with promotion of cleaner technology
- Alternate fuel vehicles such as EVs have great potential

**Lets Build on Success**

# CANN Joins hand with NIA to Raise Awareness About Male Declaration



National Stakeholder Meeting in Kathmandu



# Conducted School Awareness Campaign “ Care 4 Clean Air” in 10 Schools





## College Level Workshop on Air Pollution and Climate Change in 5 colleges on the Occasion of Environment Day 2008

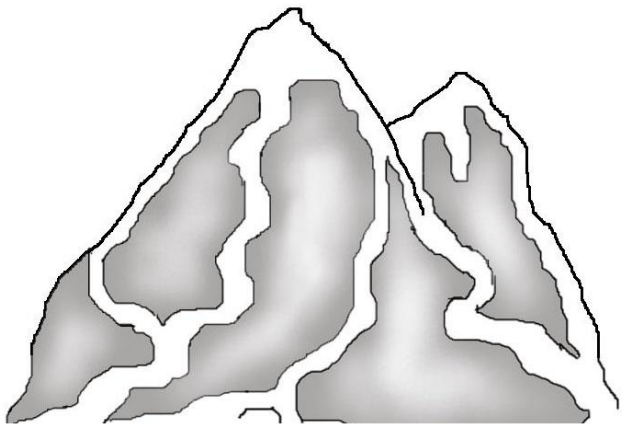




# Workshop on Air Pollution and Climate Change on the Occasion of International Youth Day ( August 12, 2008)



# Launching of Nepalese Youth For Climate Action



NYCA

- Forum of College Students
- Focus area – Air Pollution and Climate Change
- Create Green Youth Force – Informed, Dedicated and Committed Youth
- Awareness and Capacity Building Activities for Youth
- Youth to Youth and Youth to Community Approach



# Way A Head

- More intensive education and awareness campaign
  - Media
  - Students and Youths
  - Local Community
- Work closely with central and local government to introduce programs and activities for clean air



Thanks for your  
Kind Patience !

