

•  
•  
•  
•  
•  
•  
•  
•  
•  
•  
•  
•

# “Emission Trading Opportunities in an International Airshed”

*Gilberto Velázquez*

Department of Civil and Environmental Engineering

Autonomous University of Ciudad Juárez

Ciudad Juárez, Chihuahua

MEXICO



**RIO 02: World Climate & Energy Event**

Rio de Janeiro, Brazil

6-11 January, 2002

• • • • • • • • • •

- 
- 
- 

## Objective

Present the characteristics of an international airshed in the US-Mexico border and opportunities for emissions trading.



# **Environmental Cooperation between the US and Mexico**



## La Paz Agreement

- Agreement of Cooperation for the Protection and Improvement of the Environment in the border area.
- Signed in 1983 in La Paz, Baja California, Mexico.
- The border zone is defined as 100 km to the north and south of the border.
- This agreement is the vehicle to address environmental issues along the 2000 mile US-Mexico border.

## Border XXI Program

- Binational framework for La Paz Agreement implementation.
- The US EPA and the Mexican Ministry of Environment and Natural Resources are the lead agencies in charge of the program.
- Organized into nine binational workgroups: air, pollution prevention, environmental health, environmental information resources and 5 others.

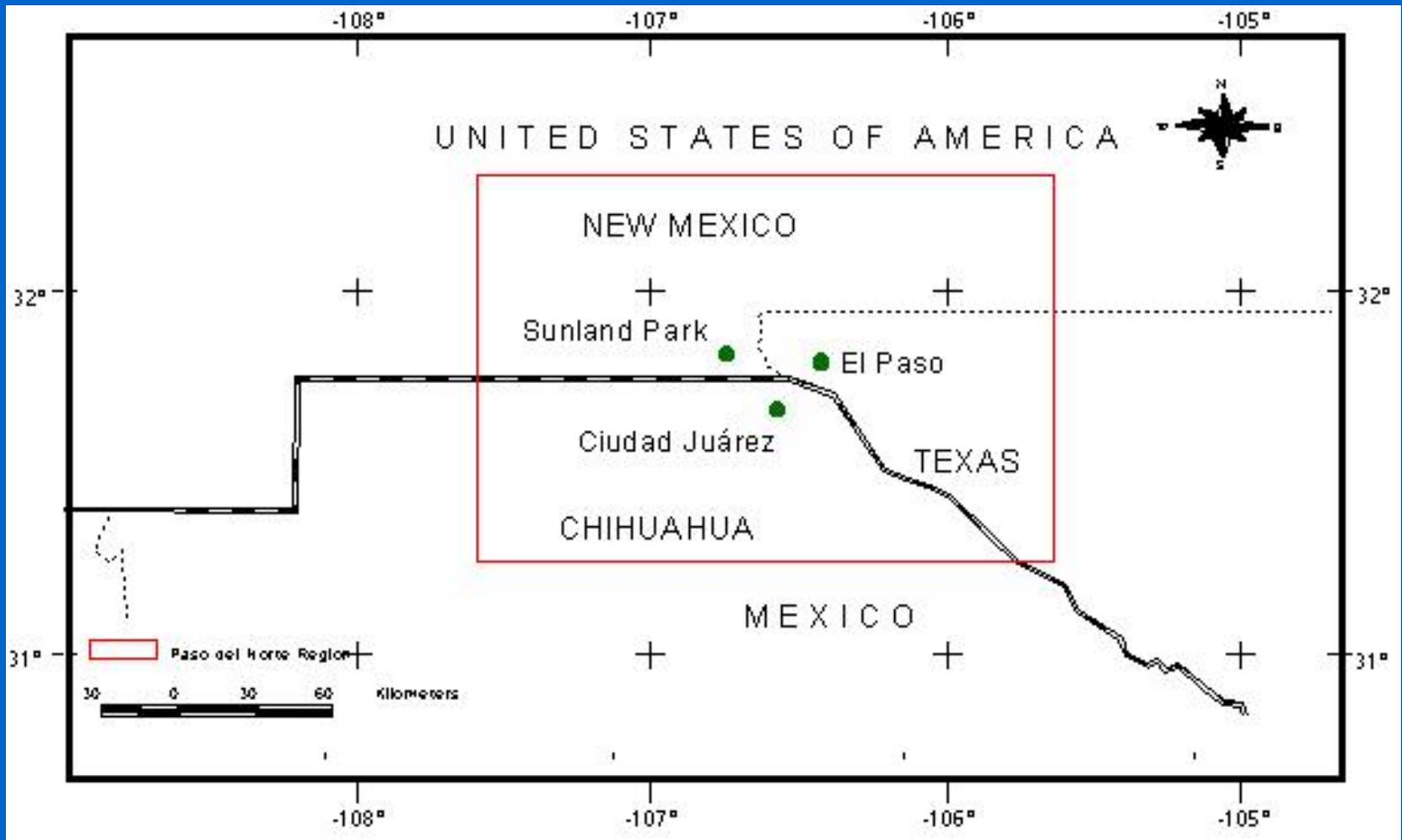
## The Joint Advisory Committee

- Panel of stakeholders with 20 representatives (10 from the US and 10 from Mexico) from the federal, state and local governments, nongovernmental organizations, and the academic and private sector.
- Created in 1996 under Annex V of the La Paz Agreement for the purpose of developing and presenting recommendations to the Air Workgroup of Border XXI regarding strategies for the prevention and control of air pollution in the Paso del Norte air basin.

## The Joint Advisory Committee (Cont..)

- The recommendations to prevent and reduce air pollution may include *emissions trading and other economic incentives*.
- The air basin is defined as the geographic area that includes El Paso, Texas; Sunland Park, New Mexico (in the US) and Ciudad Juárez, Chihuahua (in Mexico).

# Paso del Norte Region



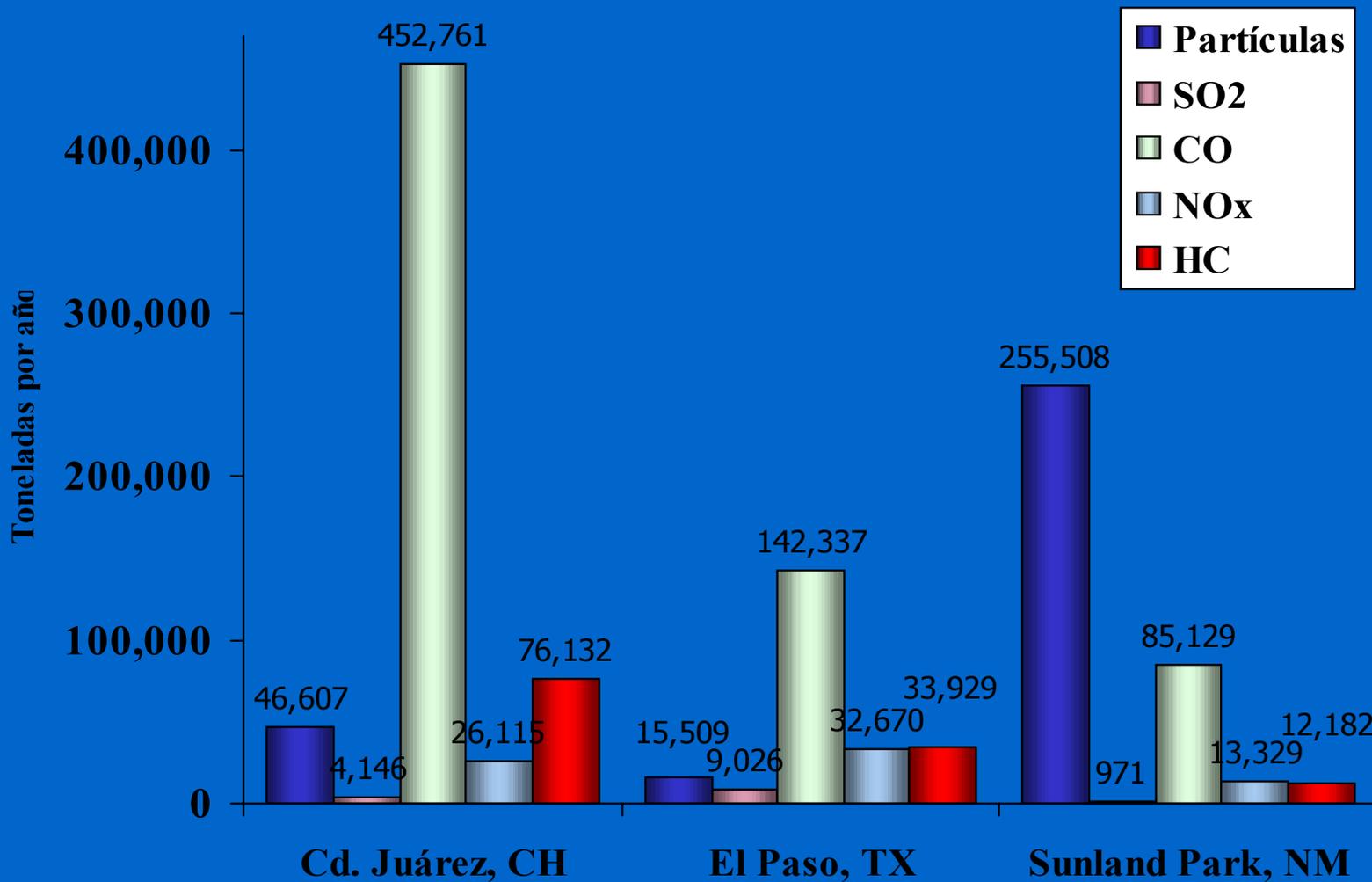
## The Joint Advisory Committee (Cont..)

- The JAC provides a forum with a diverse group of people representing the community and government at all levels from the US and Mexican sides, which may be used to advance ideas like emission trading of greenhouse gases and other pollutants that help reduce air pollution in the common airshed.

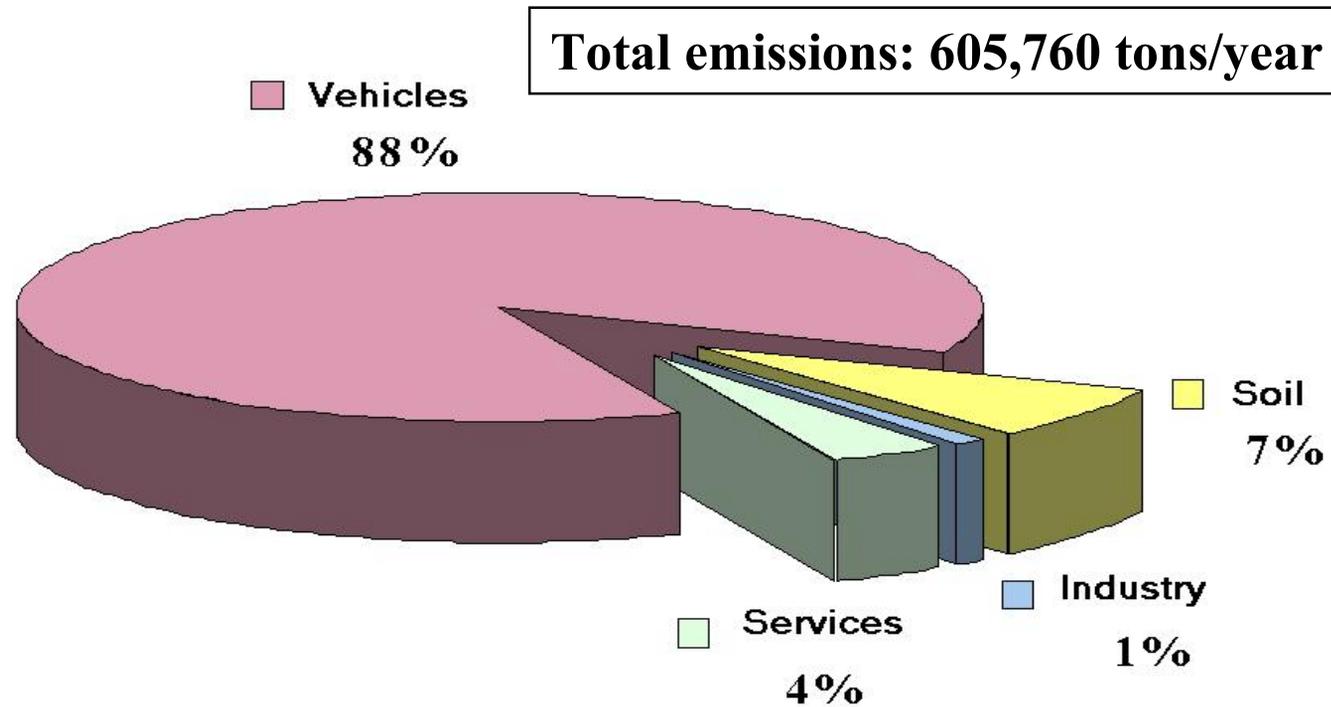
- 
- 
- 

# Emissions Inventory

# Emissions Inventory for the Paso del Norte Region



# Emissions Inventory by Sector for Ciudad Juárez



## Emissions Inventory (Cont..)

- A more detailed inventory that includes CO<sub>2</sub> and other greenhouse gases is needed.
- In June 2001, the Ministers for the Environment from Mexico, Canada and the US (under the Commission for Environmental Cooperation) agreed to promote the development of a trilateral emissions inventory that will include greenhouse gases.

- 
- 
- 

# Emission Trading Opportunities in the Paso del Norte Region

## Legal Framework

- The airshed in this region is recognized as binational by the US and Mexican governments.
- The state of Texas has an Emission Reduction Credit Trading program as a tool to reduce air pollution.
- The state of Texas allows for a polluter in El Paso to credit emission reductions when they reduce pollution in Ciudad Juárez since both share the same air basin.



## Trading Opportunities

- Finance emission reduction projects in Ciudad Juárez, which has less use of technology for pollution reduction and therefore represents an opportunity for larger reductions with smaller investments.



## An Example: Brick Kiln Improvement Project

- Brick kilns are rustic structures used by families in many third world countries to manufacture clay bricks.
- The clay bricks are preformed with clay from local sources and burn in an open kiln using any burnable solid waste available (mainly discarded wood pallets, plastics and tires).
- The production of clay bricks is promoted by the construction industry and by the house construction habits on the Mexican side of the border.

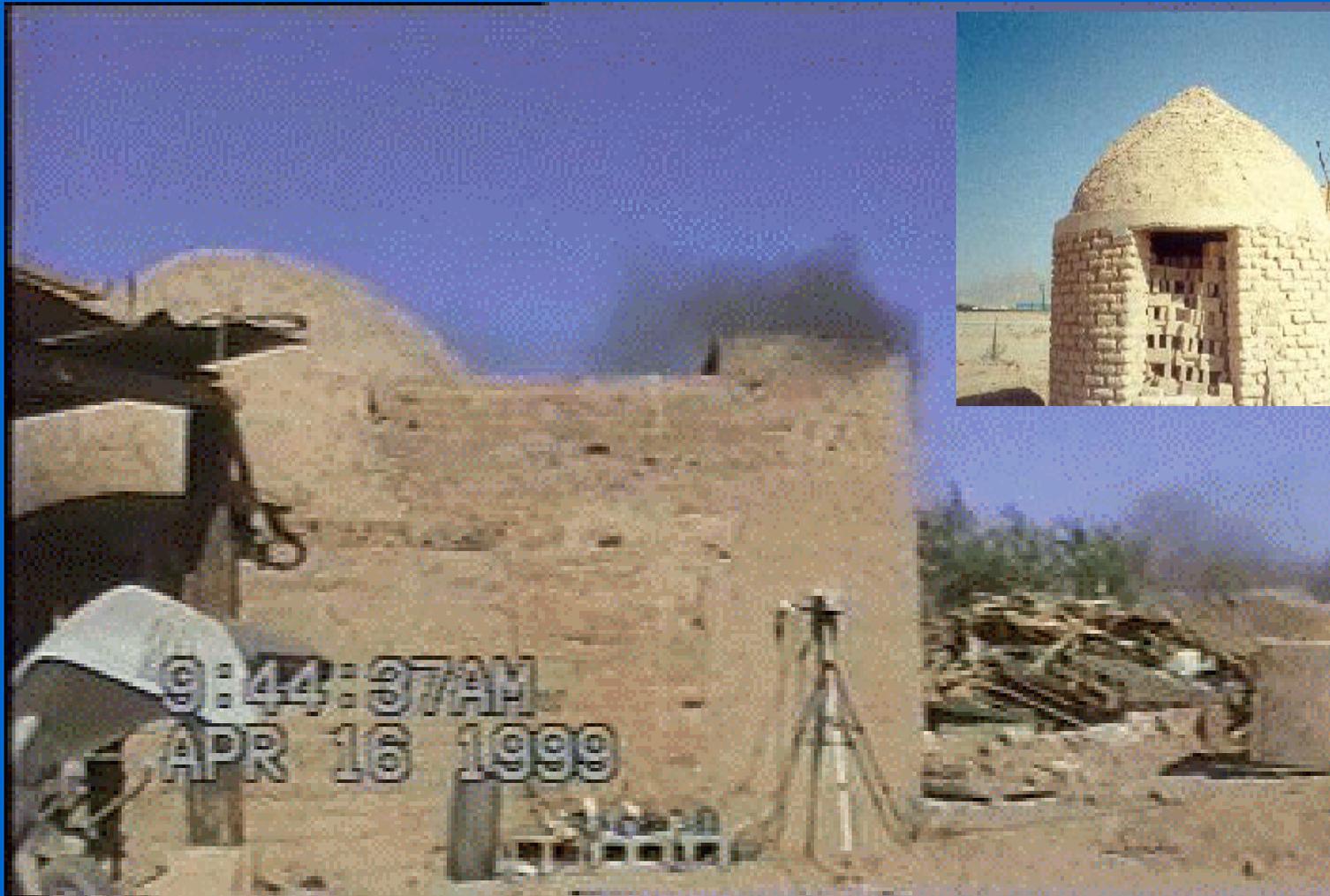
# Traditional Brick Kiln



## Brick Kiln Improvement Project (Cont..)

- There has been research carried out by New Mexico State University (NMSU) and a Technical Commission of the Joint Advisory Committee to create a new design for brick kilns that reduce emissions by more than 90%.
- This new design is rounded, with a dome and filters.

# Environmental Brick Kiln (New Design)



## Brick Kiln Improvement Project (Cont..)

- The brick makers in Ciudad Juárez are mainly low income families that have been using the traditional brick kilns for generations.
- The conversion to the new design kiln involves investments that they are unable to make.
- A US utility company based in El Paso is required by the government of Texas to reduce some specific pollutants.
- This company became involved in the brick kiln improvement project.

## Brick Kiln Improvement Project (Cont..)

- If this company invests in the conversion to less polluting brick kilns they will reduce other pollutants besides the ones they are required, but may not be able to claim credit for them.
- If the extra pollutants that are reduced fall under the 1997 Kyoto Protocol for emission credit exchanges, the reductions may be sold, recovering some of the investment they have to make

- 
- 
- 

# CONCLUSION

The Brick Kiln Improvement Project is just one example of how the particular characteristics of this region, including the legal recognition as a common binational airshed, presents great opportunities for emission reductions and tradings.



- 
- 
- 
- 
- 
- 
- 
-

•  
•  
•

# *The End..*



“We find *Success* before *Work* only in the Dictionary”

• • • • • • • • • •