

Emission Trading Opportunities in an International Airshed

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Abstract

The special characteristics of a binational airshed in the US-Mexico border (Paso del Norte Region) are presented. There are opportunities for emissions tradings at lower costs that may be unique to this region. One example is described..

1. INTRODUCTION

In December 1997, the world's national governments met in Kyoto, Japan, to negotiate a treaty to start dealing seriously with climate change. The result of that meeting was the Kyoto Protocol, which creates a framework in which reduced emissions of any significant greenhouse gas can be traded between companies and between countries under agreed national emissions caps, with the idea of producing reductions at the lowest costs (Hawken et al, 1999).

The details for greenhouse gases emissions tradings are still being worked out; however some private companies have already started doing some tradings (NYT, 2000).

Here we present the special characteristics of a binational airshed in the US-Mexico border and how it presents opportunities for lower cost emission reductions and tradings. Since some tradings are already taking place it is possible to look for international funding on some projects that may take place in the region described.

2. INTERNATIONAL AIRSHED

The Paso del Norte Region is composed by Ciudad Juárez, Chihuahua, in Mexico; El Paso, Texas, and Sunland Park, New Mexico, in the United States (Figure 1). In 1996 this region, that includes 3 states in two countries, was recognized by the Mexican and US Governments, under Annex V of La Paz Agreement, as a common binational airshed. This official recognition opened new opportunities for cooperation and implementation of more effective policies to reduce air pollution in the area.

2.1. Emissions Inventory

In Table 1 we have the data for the emissions inventory for the 3 cities that form the Paso del Norte Region. A more detailed inventory that includes CO₂ and other greenhouse gases is needed. In June 2001, the Ministers for the Environment from Mexico, Canada and the US agreed to promote the development of a trinational emissions inventory that will include greenhouse gases (Environmental Economics, 2001).

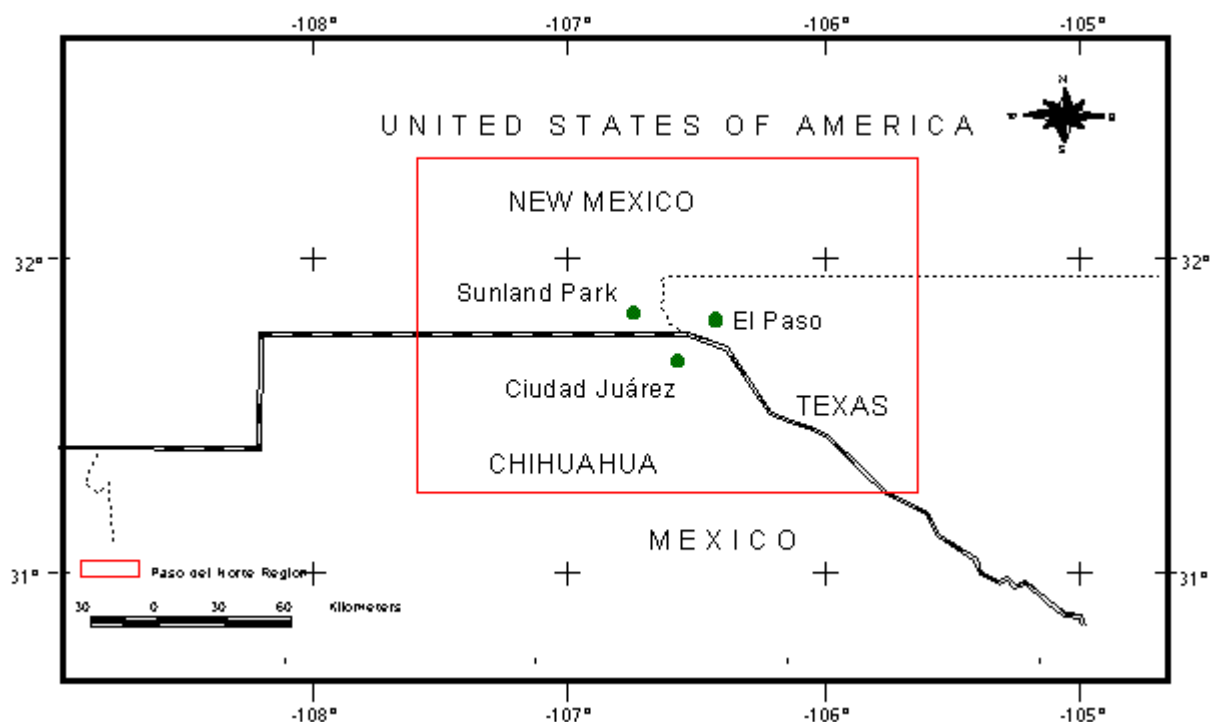


Figure 1. Location of the Paso del Norte Region.

Table 1. Emissions Inventory for the Paso del Norte Region [tons/year] (INE, 1998).

POLLUTANT	CITY		
	Ciudad Juárez	El Paso	Sunland Park
Particles	46,607	15,509	255,508
SO ₂	4,146	9,026	971
CO	452,761	142,337	85,129
NO _x	26,115	32,670	13,329
HC	76,132	33,929	12,182

2.2. The Joint Advisory Committee

The Joint Advisory Committee (JAC) is a 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. The JAC's purpose is to advise and provide recommendations to the Air Workgroup, which is devising a binational strategy to improve air quality in the Paso del Norte air basin under Annex V of the La Paz Agreement (Ganster, 2000).

The members of the JAC developed an Strategic Plan which outlines the JAC's mission, goal and objectives, addresses priority air quality planning and management issues, and proposes specific actions the JAC recommends the Air Workgroup undertake (JAC, 1999). Through this plan, the JAC hopes to focus its efforts on those actions that will achieve significant reductions in air pollutant emissions. The proposed actions are summarized in 26 priority projects. In the area of economic incentives some of the projects are related to basin-wide emissions reductions credits trading that may involve international tradings. The Strategic Plan is currently being updated.

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.

3. EMISSION TRADING OPPORTUNITIES

Besides federal regulations in Mexico and the US, each state (Chihuahua, Texas and New Mexico) has its own environmental regulations. For example, the state of Texas has an Emission Reduction Credit Trading program as a tool to reduce air pollution. Since the airshed in this region is recognized as binational, the state of Texas allows for a polluter in El Paso to credit emission reductions when they reduce pollution in Ciudad Juárez.

One opportunity for reducing pollution at a lower cost, taking advantage of the particular characteristics of this region, would be to finance emission reduction projects in Ciudad Juárez, which has less use of technology for pollution reduction and therefore represents a chance for larger reductions with smaller investments.

The characteristics that have been described for the Paso del Norte Region bring the possibility for special situations where emission trading of greenhouse gases may be possible in cases where it was not the primary purpose of the emission reductions.

Here we describe one possibility for emissions trading at lower costs.

3.1. Brick Kiln Improvement Project

The traditional brick kiln is squared with no cover (Figure 2a) which causes that all the particles and gases emitted go directly into the atmosphere. 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 (Figure 2b). There is work being done to reduce emissions even more by having two brick kilns connected, so that the hot air with the pollutants from a kiln that is in operation circulates through the other brick kiln that is not being operated. This way the burning time is reduced by drying out the bricks with a corresponding reduction in emissions.

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.

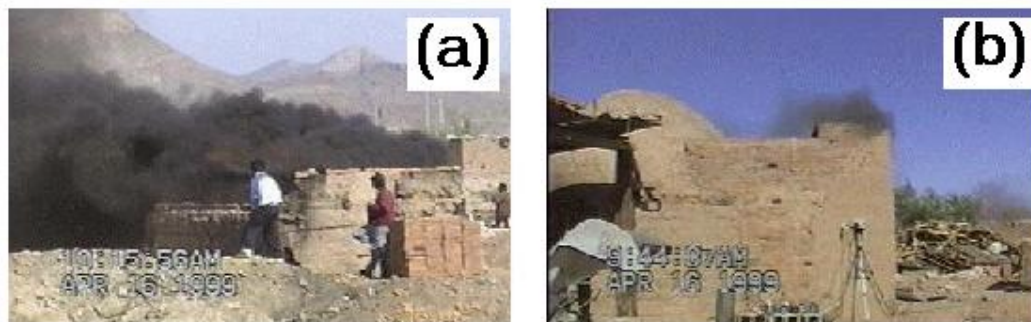


Figure 2. Examples of a) Traditional and b) Environmental Brick Kilns (JAC, 1999).

A US utility company based in El Paso is required by the government of Texas to reduce some specific pollutants. This company is involved in the brick kiln improvement project. If they invest 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 (they are in talks right now to see the possibility of exchanging pollutants in the reductions they need to make, that is to get credit for the pollutants they are required to reduce when they reduce the emissions of other pollutants). 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.

4. ACKNOWLEDGMENTS

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