



**CORPAIRE**



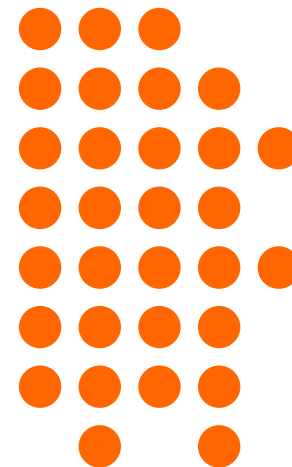
*¡Por la salud y la seguridad de todos!*

**5th PCFV GLOBAL PARTNERSHIP MEETING**

**SOUTH AMERICA SULPHUR IN  
VEHICLE FUELS CONFERENCE  
SUMMARY**

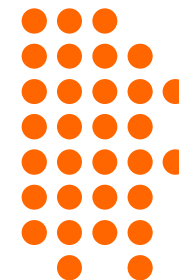
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Quito – Ecuador  
Feb 13-14, 2007





# BACKGROUND

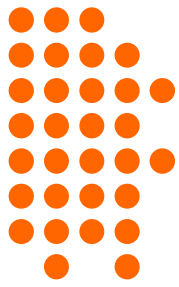


## Countries by Population Density

País o dependencia	dens. pop. (/km <sup>2</sup> )	área (km <sup>2</sup> )	población (2002-07-01 est.)
Ecuador	47	283.560	13.447.494
Colombia	36	1.141.748	42.708.227
Venezuela	27	916.445	24.287.670
Perú	22	1.285.220	26.949.639
Brasil	22	8.514.877	187.550.726
Chile	20	756.950	16.123.930
Uruguay	19	176.220	3.386.575
Paraguay	14	406.750	5.884.491
Argentina	13	2.791.810	36.260.130
Bolivia	7,7	1.098.581	8.445.134
Guyana	3,2	214.970	698.209
Surinam	2,7	163.270	436.494
Guyana Francesa	2,0	91.000	182.333



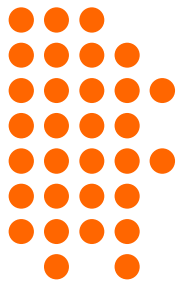
# REMARKS I



- 70 % of the people under air pollution risk, live in developing countries. This fact justifies the enormous concern existing currently about this particular issue.
- It is important at global level to remove completely lead from gasolines up to the year 2008, and progressively reduce sulphur in all fuels.
- Vehicle technology improvement is a challenging matter according to these proposed new fuels. It requires global agreements among fuel producers, vehicle manufacturers, vehicular technology developers, etc. (A systemic approach).
- Sulphur reduction is necessary, independent of its current level in countries. (High, medium or low).
- Nowadays, vehicle fleet in the region grows as explosively as it grew in developed countries years ago.



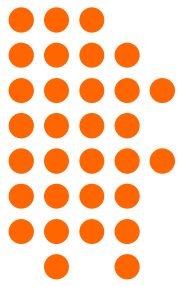
## REMARKS II



- Regional experts are trying to generate information and propose improvement alternatives for the situation, in order to facilitate a program generation in different areas like retrofit, sulphur reduction in fuels, etc.
- Many international studies have demonstrated the direct relationship between particulate matter pollution and health affectations.
- One of the most effective ways to evaluate the potential of health impacts on a human community is taking a look on how close it is to emission sources.
- The lead case offered an excellent approach to the systemic vision and allowed to create awareness of the important relationship between several issues and their linking to the problems solution.



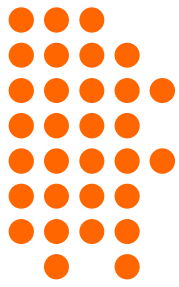
## REMARKS III



- It has been said that a systemic approach is being used by petroleum companies which have created a programmed improvement.
- Working towards inspection and maintenance systems is mandatory to improve vehicle fleet operating conditions to achieve emissions reduction based on the use of better quality fuels.
- Fuel quality improvement means upgrading and reforming processes, but construction of new refineries is indispensable.
- NCG, LPG and biofuels are proposed as alternatives for the region. Assessments to verify currently assumed facts are required.
- At this moment, there is not an appropriate harmonization between fuel quality and vehicle technology in the region.



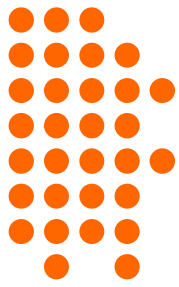
## REMARKS IV



- Latin America is a climate change and health effects vulnerable region.
- There are several initiatives for fuels and vehicles harmonization meaning the feasibility of a regional panel to allow progresses when discussing this topic.
- Improving the region transport models is mandatory to allow public transportation systems evolve in order to reduce emissions coming from a growing private vehicle fleet.
- First steps in the aforesaid harmonization have been taken to create regional parameters capable to evaluate vehicles environmental performance as well as the air quality.



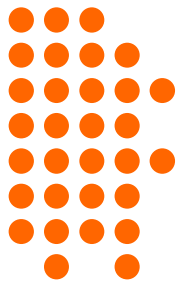
## REMARKS V



- Some proposed strategies for sulphur reduction could be desirable for the region as a tax/subsidy or voluntary requirements for vehicle fleets application.
- Brazil is the first country in the region in programming the LEV introduction. It implies a 50 ppm Sulphur in all the fuels to fulfill the emissions requirements.
- The vehicle fleet management experience in South Africa shows that diesel vehicles equipped with DPF's consuming a less than 50 ppm Sulphur fuel emit less particulate matter than Otto engine vehicles.
- Government intervention is indispensable to guarantee effective programs, because the voluntary ones show to be less effective.



## REMARKS VI



### ECUADOR (STUDY CASE):

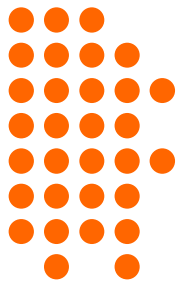
- In Ecuador lead does not exist in fuels and its Research Octane Numbers (RON) are low (80 y 89).
- **There is a considerable diesel contraband through the country borders (to Colombia and Peru).**
- It has been possible to evaluate a SO<sub>x</sub> concentration reduction which could be related to a less sulphur concentration in the diesel fuel (research hypothesis).
- The city of Quito has its own I/M and a retrofit program running on.

### CHILE (STUDY CASE):

- An important relationship between the pollution reduction programs and the polluting emissions decreasing has been shown.
- Some programs based on a systemic approach over the most important problems have been developed.



## REMARKS VII



### CHILE (STUDY CASE) continuation:

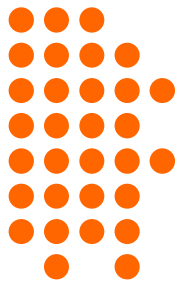
- Transantiago is an integrated transport system greatly successful in its implementation. From an environmental point of view, its greatest contribution is the setting of emission reduction goals when the system was built.
- The Santiago retrofit program considers buses with DPF's filters, and in the future the same work will be done in trucks with the USEPA support.
- Future emission reduction programs will consider management of light duty vehicles and trucks.

### UNITED STATES (ESTRATEGIES):

- The approach is currently changing from Otto engine vehicles to cleaner Diesel engine vehicles due to the large environmental advantages they have.



## REMARKS VIII



UNITED STATES (ESTRATEGIES) continuation:

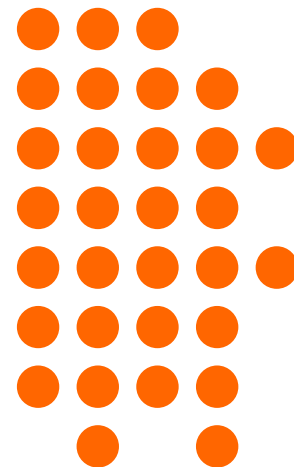
- The excellent cost-benefit relationship existing in the strategies to reduce sulphur in fuels reduction strategies have been demonstrated and they allow to get benefits many times greater than the costs of the aforeasaid strategies.
- The fuels incremental costs are about cents per gallon, but the savings coming from lower maintenance costs required by the vehicles can be enormously higher.
- To ensure the success in the retrofit programs cleaner fuels are needed.



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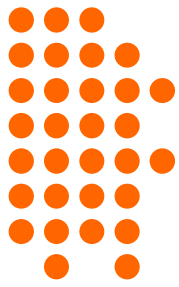
# SOUTH AMERICA SULPHUR IN VEHICLE FUELS CONFERENCE

## Results and Conclusions Summary





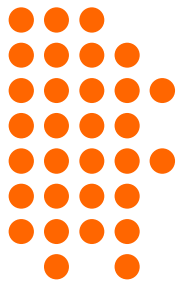
# Objectives of the Partnership for Clean Fuels and Vehicles



- Leaded gasoline full phase-out.
- Fuel desulphurization.
- Cleaner vehicles.



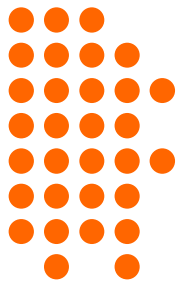
# Agreements I



- Move towards a less than 50 ppm sulphur fuels for the entire region.
- Many national and local governments in South America are moving toward this target.



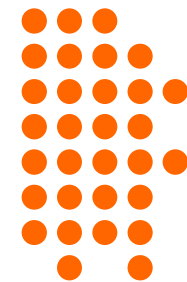
# Agreements II



- Move to systemic solutions for the environmental problems related to the transport.
- Integrate the Partnership work with other initiatives, especially CAI (Clean Air Initiative in Latin American Cities).
- Concentrate the Partnership work on fuels desulphurization and cleaner vehicles.
- Using the CAI for other aspects discussed in workgroups.



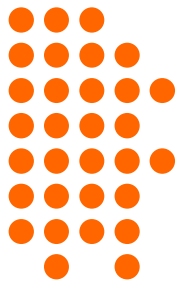
# Actions I



- Include the issue at the political agenda:
  - Collect the information on fuel quality compromises and present it through UNEP in the next Environment and Energy Ministers meetings (short term).
  - Promote these agreements in Majors meetings and initiatives at city level.
- Generate a follow-up and report strategy to ensure the fulfillment of the desulphurization compromises, identifying the most adequate disseminating fora (i.e. CAI, PCFV, other fora) (short term).



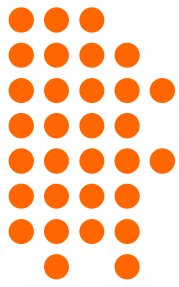
# Actions II



- Define precisely an agenda for the following topics in the next two years:
  - A clear and updated information integration about vehicle and fuel quality standards
  - Supporting assessments for the technical basement on new vehicle and fuel standards emphasizing in health benefits.
  - Concrete cooperation programs among cities and countries i.e.: Filter verification programs.
  - Definition of responsables and financing mechanisms for the above proposed actions.
- Emphasize in the regional capacities use and reinforcement.



## Actions III



- Create a list of key actors based on the list of those identified during this conference.
- Generate interaction and communication mechanisms for the implementation of compromises and advances in fuel quality and cleaner vehicles
- Use these mechanisms for the dissemination of the fuel and vehicles improvement benefits.



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