

# **Ground-Level Ozone**

A Negotiated Rule-Making Process on Varara's Air Pollution Crisis

## **Instructions for the CAIA Negotiator**

From the Executive Board of the CAIA

As you know, the Camitia Auto Industry Association (CAIA) has been playing an active role in consolidating the industry's position and consulting with government agencies on various policy matters for the past nine years. Our members include six multinational firms that manufacture passenger vehicles in Camitia and two domestic firms that manufacture minibuses. The automobile sector is one of the most important industrial sectors in Camitia, in terms of its contribution to the national economy and employment. It provides nearly one-fifth of Camitia's employment and total exports.

### **Position on the Reduction of Ground-Level Ozone**

About 40% of the vehicle fleet in the Varara metropolitan area is more than 12 years old and accounts for 70% of mobile source emissions. Thus, the most effective mechanism for reducing emissions (and thus ground-level ozone) is to turn over the fleet – to sell more new cars and retire the old ones. We believe that there are not enough consumers in Camitia who want and could pay for expensive emission-reduction technologies. If more stringent emission-control requirements cause vehicle prices to rise, the rate of turnover will slow. Our companies are committed to providing the best technology that consumers can afford. Most important, uncertainty regarding the availability of low-sulfur gasoline must be minimized if we are to agree to any new technologies, since planning for future production involves long-range thinking and considerable financial investment.

### **Primary Concerns**

There is a rumor that the Varara Environmental Department may impose strict, unilateral policies due to the ground-level ozone crisis. We have three primary concerns about that. First, in order to introduce any new emission-control technologies, we need the amount of sulfur in gasoline to be below 300 ppm as soon as possible (Option 3). This will enable the efficient operation of catalytic converters, which we agreed to begin installing into new MES 0 vehicles in 2003. MES 2 vehicles require gasoline of 30 ppm of sulfur or less.

Second, even if low-sulfur gasoline is introduced, it will cost at least US\$300-400 per vehicle to attain MES 1 and 2 standards, due to production line changes and unit technology costs. We are concerned about a decrease in car sales as a result. Thus, we want a slow phase-in of any new emission standards (Option 1). Third, we cannot accept the on-board diagnostic (OBD) system and emission warranties option. This option could make us liable for repairing damage to emission systems caused by high-sulfur gasoline and bad road conditions – all without any rewards such as tax credits or differential treatment for newer cars in the inspection and maintenance (I&M) program. What we need is an incentive for consumers to purchase new vehicles despite an increased sticker price.

## Negotiating Strategies

We suggest several negotiating tactics:

*Pass the ball to the CPC. Avoid the Deflect criticism upon of our sector as a major source of air pollution by passing the ball to the Camitia Petroleum Company (CPC). Emphasize that the use of advanced emission- control technology is contingent upon the phase-in of low- sulfur gasoline, as since sophisticated emission systems can be damaged by sulfur in the fuel.*

**Emphasize I&M.** Water down the pressure on stringent emission standards as much as possible by turning the group’s focus to the need for a more effective inspection and maintenance program.

**Lobby to the Ministry of Finance (MOF).** You need to lobby the MOF to pressure the CPC into providing low-sulfur gasoline. The MOF should be on your side in this regard; it wants you to sell as many cars as possible, since 30% of the price of every vehicle sold is collected by the MOF as tax for governmental revenue. In addition, a decrease in car sales would negatively affect the national economy.

**Undermine the scenario analysis.** We hired our own consultants and had them conduct their own scientific and technical assessment. They came up with different results than the research team retained by the stakeholder group. Keep questioning the research team’s assumptions about vehicle-kilometers traveled (VKT).

**Create an environmentally friendly image.** Our long-term success depends on our ability to create an environmentally friendly image. By insisting on lower-sulfur gasoline and agreeing to a moderate phase-in of stricter emission standards (Option 2), we can be considered a “good guy” by other parties, especially environmental agencies. (This will also minimize the possibility of unilateral regulatory requirements.) To cultivate further goodwill, you can offer to contribute funds to NGOs for their education or ozone-reduction activities.

## **Background on the Regional Free-Trade Agreement**

The real price of automobiles in Camitia has dropped significantly since trade liberalization. Automobile sales in Camitia are at record levels even in this economic downturn, with the Varara metropolitan area accounting for about 53 percent of national vehicle sales.

Our industry primarily assembles cars for foreign markets. Camitia's automakers can use improved environmental performance as a bargaining chip to carve out favorable conditions in the Regional Free-Trade Agreement. The continuing growth in exports will create pressure from the outside for higher environmental standards. The exported-oriented firms we represent have already established the production and managerial capacity to manufacture cars with better technologies within several years. In fact, the corporate headquarters of the multinational firms were extensively involved in the agreement to introduce catalytic converters in 2003. In these companies, decisions regarding new plants and new technologies are being made with an eye toward the global and regional integration of production and markets, and less for domestic reasons. The two domestic-oriented firms we represent, however, do not have the same technology access or manufacturing experience as the multinational firms.

## **Decision Options**

Guidance is provided regarding our top priorities only. Unacceptable policy options are also highlighted. You are to strive for these outcomes. If our first or second choice is impossible to achieve, we leave it to you to use your judgment as to what best meets CAIA's needs.

### **Decision 1: Sulfur Content in Regular Unleaded Gasoline**

**1<sup>st</sup> Choice: 300 ppm in 2004 and 30 ppm in 2008 (Option 3).** High sulfur levels in gasoline reduce catalyst efficiency for all criteria pollutants, because catalysts are gradually poisoned by the sulfur. For example, the effectiveness of the catalyst in controlling NO<sub>x</sub> emissions can be reduced by 30%. The lack of a clear commitment from the CPC to provide low-sulfur gasoline remains the major negative factor that could delay or prohibit the introduction of new technologies. Given the threat of unilateral regulation imposed by government, as well as the pressures created by regional trade liberalization, we'd like to see the fast phase-in of low-sulfur gasoline. We believe that faster phase-in will also reduce the possibility of mis-fuelling MES 2 vehicles with MES 1 fuel, which in turn will reduce complaints from consumers about unsatisfactory engine performance. Some studies have shown that reducing the gasoline sulfur content to 50 ppm would cost only 5 US cents per gallon on average.

**2<sup>nd</sup> Choice: 300 ppm in 2006 and 30 ppm in 2011 (Option 2).**

**Oppose: 300 ppm in 2008 and 30 ppm in 2015 (Option 1).** With this option, we can only choose the slowest phase-in of the emission standards (Option 1), because MES 2 vehicles require gasoline containing less than 30 ppm of sulfur.

## **Decision 2: Emission Standards for New Vehicles**

**1<sup>st</sup> Choice: MES 2 in 2013 (Option 2).** Our financial analysts report that Option 2 is the best option for us. This option will help our companies bring their Camitia operations in line with regional and global manufacturing and handle the effects of trade liberalization, including increased competition and vehicle imports. These factors are increasing the willingness of our sector to introduce emission-control technologies. Most firms are already able to manufacture vehicles that meet the MES 1 requirements for exported vehicles.

**2<sup>nd</sup> Choice: MES 2 in 2016 (Option 1).** If the stakeholder group chooses Option 1 for low-sulfur gasoline (i.e., slow phase-in), then we have no choice but this option.

**Oppose: MES 2 in 2011 (Option 3).** Environmental authorities tend to underestimate the lead-time required by the industry to make the changes necessary to adopt new standards. Option 3 simply costs us too much. According to our financial department (and based on expected future car sales), we can spend a maximum of US\$19 billion to change technologies and comply with new regulations. We would have to raise our prices so much that few in Camitia could afford our vehicles. This may lead to a decrease in vehicle sales – which the Ministry of Finance would like us to avoid. This cost information is confidential – we cannot reveal it to other parties. The costs stem from the need to change the production lines, install the new exhaust and fuel injection systems, train employees on the new technology, and make engine adjustments to meet local conditions (such as adjustments for less oxygen content at higher altitudes).

## **Decision 3: Enhanced Inspection and Maintenance Program**

**1<sup>st</sup> Choice: Differential Treatment in Inspections (Option 4).** Given that only 15% of all vehicles (primarily the old ones) emit more than 50% of all air pollution, it does not make sense to spread resources thin by inspecting all vehicles, including new ones, just to isolate the 15%. In addition, because most cars are expected to pass an enhanced I&M test, all vehicle owners are forced to spend time and money to identify and clean up the emissions of a select few. We want new vehicles that meet the MES 0 standard to be exempt from inspection for two years.

**Oppose: OBD Systems and Emission Warranties (Option 5).** It's true that emission-control equipment sometimes malfunctions, and that some firms are already

manufacturing vehicles with on-board diagnostic (OBD) systems. However, the driving patterns and poor road conditions in the Varara metropolitan area would be a leading cause of those malfunctions, so we should not be held responsible. If our companies were to include OBD systems and emissions warranties, vehicle prices would rise about US\$100 per vehicle. If, however, the stakeholder group agrees to sulfur Option 3 – the fast phase-in of low-sulfur fuel – and also to differential treatment in inspecting cars, we could agree to introduce OBD systems in 2008, with warranties up to 60,000 km.

## **Decision 4: Public Transportation**

**1<sup>st</sup> Choice: Ring Road Construction (Option 2).** The road network in the metropolitan area should be able to carry nearly 3.5 million vehicles. The number of vehicles is growing rapidly – 10% per year. Increased travel time due to traffic congestion leads to a downward trend in conventional public transit, too. In order to keep the metropolitan area livable and the economy healthy, the cities should keep pace with the growing number of cars by providing an appropriate public infrastructure.

**2<sup>nd</sup> Choice: Subsidy for Microbuses (Option 6).** The CAIA's members that manufacture minibuses are aware that the minibuses in Sandoa are very old and will have to be replaced or upgraded in the near future. It would be in our interest for the minibus operators to receive subsidies to buy new minibuses or upgrade the technology in the old ones.

**Oppose: Congestion Pricing (Option 4).** The CAIA is worried about the negative impact of congestion pricing on the mobility of private autos.

## **Decision 5: Assigning Enforcement Responsibility and Financing**

Under any scenario, we will be responsible for introducing any new emission-control technology, including OBD. But our ability to do that depends on our car sales. Our best estimates show that we can spend no more than US \$19 billion to adapt to the new regulatory environment.

## Summary of the CAIA's Positions

### Priorities

- (1) Fast phase-in of low-sulfur gasoline (Option 3)
- (2) Moderate phase-in of emission standards (Option 2)
- (3) Differential treatment in inspections (Option 4)

### Constraints

- (1) No fast phase-in of emission standards (Option 3)
- (2) OBD and warranties contingent on obtaining low-sulfur fuel (Option 2 or Option 3) and differential treatment in inspections

### Decision 1: Sulfur Content in Regular Unleaded Gasoline

- 1<sup>st</sup> Choice: 300 ppm in 2004 and 30 ppm in 2008 (Option 3)  
2<sup>nd</sup> Choice: 300 ppm in 2006 and 30 ppm in 2011 (Option 2)  
Oppose: 300 ppm in 2008 and 30 ppm in 2015 (Option 1)

### Decision 2: Emission Standards for New Vehicles

- 1<sup>st</sup> Choice: MES 2 in 2013 (Option 2)  
2<sup>nd</sup> Choice: MES 2 in 2016 (Option 1)  
Oppose: MES 2 in 2011 (Option 3)

### Decision 3: Enhanced Inspection and Maintenance Program

- 1<sup>st</sup> Choice: Differential Treatment in Inspections (Option 4)  
Oppose: OBD Systems and Emission Warranties (Option 5)

### Decision 4: Public Transportation

- 1<sup>st</sup> Choice: Ring Road Construction (Option 2)  
2<sup>nd</sup> Choice: Subsidy for Microbuses (Option 6)  
Oppose: Congestion Pricing (Option 4)

### Decision 5: Assigning Enforcement Responsibility and Financing

- US\$19 billion for changing technologies and complying with emission standards