

Ground-Level Ozone

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

Instructions for the VED Negotiator

From the VED's Air Pollution Management Division

As you know, the Varara Environmental Department (VED) is the local environmental regulatory agency. The VED has 850 employees and an annual budget of US \$1.2 billion. Because the environmental crisis is in Varara, the VED is the lead government agency in the stakeholder dialogue. The VED views the dialogue as an opportunity to gain the upper hand in the governmental power balance by utilizing public awareness of environmental issues. Until now, the VED has had to take a back seat to the Ministry of Finance and other economic agencies.

Position on the Reduction of Ground-Level Ozone

Based on the Health Department's analysis, we need to reduce NO_x and HC emissions by 70% to comply with the ozone health standard by 2018. We believe that the most promising option for reducing ozone levels in the long term is the enforcement of stringent technology standards for vehicles and fuels. We believe the *laissez-faire* approach to the environment until now has caused this crisis. If agreement is not reached at this meeting, we cannot but consider proposing unilateral policy interventions. With mounting public pressure for a cleaner environment, and with emission-control technology already widely available in the international market, we believe we have a good opportunity to bring Camitia's emission and fuel standards more in line with those of developed countries. Toward that end, vehicle inspection and maintenance (I&M) should also be enhanced.

Primary Concerns

The VED has three primary concerns in this negotiation. First, we would like to see the fast or moderate phase-in of low-sulfur gasoline (Option 3 or Option 2). We can use our support of these options as leverage to persuade the auto industry to comply with more stringent emission standards. Without an agreement with the Camitia Petroleum Company (CPC) about fuel, it will be difficult to negotiate with the Camitia Auto Industry Association (CAIA) about emissions technology. Second, the VED would like to see a fast or moderate introduction of emission standards (Option 3 or Option 2), since the appropriate technologies already exist.

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Third, Varara is suffering environmentally and financially because of the less-stringent I&M standards in Mola. Varara residents tend to go to the inspection centers in Sandoa because the latter are more lenient.

As a result, revenue from our inspection centers is decreasing. Thus, you should advocate strongly for the harmonization of I&M programs between the two jurisdictions, no matter the cost.

Negotiating Strategies

We suggest several negotiating tactics:

Bluff with a threat of unilateral government intervention. Agreement is more likely to be reached if there is a rumor that we will soon announce a schedule for tightening emission requirements.

Meet in caucus with the Ministry of Finance (MOF) representative. Meet with the MOF representative to discuss implementation issues and the oil option. He or she holds the key to solve every problem. Persuade the MOF by arguing that a continued crisis means greater economic costs in the long term.

Focus on fuel quality first. We suspect that the CAIA will not be cooperative in terms of emission standards. Focus on fuel quality first and try to acquire the fast phase-in of low-sulfur gasoline (Option 3 or Option 2). Then use that decision as leverage to persuade the CAIA.

Seek an alliance with the Alliance for a Livable City (ALC). The ALC represents the concerned public. Your interests mesh with theirs in many respects.

Provide incentives. You can trade on options that are less important to you as incentives for the CAIA and the MicroBus Transport Association (MBTA).

The Auto Industry and Its Technologies

Automakers have already committed to introducing appropriate emission-control technologies in their Camitian production facilities, for installation on the vehicles that are exported to neighboring developed countries (i.e., a majority of the vehicles produced here). We are fully cognizant of the increasing regional integration of vehicle production and supply, and so we assume that vehicles in Camitia will be able to meet developed countries' standards in the near future. The auto sector is profitable and stable enough to pay for emission-reduction technologies. Vehicles sold in Camitia (without the latest technologies) are priced (before taxes) the same as or slightly higher than similar models sold in other developing countries. Because Camitian automakers

enjoy a higher profit margin here than in other countries, they can withstand the additional cost of introducing new technologies.

The Benefits of Strict Regulation

As analyst Steven Haywood of the Pacific Research Institute has pointed out, during 1976-97, while the United States was cleaning up its air, its population rose more than 25 percent, its gross domestic product more than doubled, and its vehicle-miles traveled grew about 125 percent – all developments that might have been expected to worsen air pollution. What kept that from happening was a web of ever-stricter anti-emission regulations and ever-better technology. (Today's new cars emit less than 1 percent of the pollution, per mile traveled, than 1970 cars). Although air quality has been the primary impetus for policies seeking to accelerate the development of advanced automotive technologies, these technologies can also play an important role in reducing emissions of carbon dioxide and other greenhouse gases.

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 the VED's needs.

Decision 1: Sulfur Content in Regular Unleaded Gasoline

1st Choice: 300 ppm in 2004 and 30 ppm in 2008 (Option 3). We need a fast phase-in of low-sulfur gasoline in order to facilitate more stringent emission standards in the metropolitan area. Without the commitment of the CPC on this option, the CAIA will not be cooperative about phasing in new emission-reduction technologies quickly. For all vehicle types, new and old, reducing sulfur can reduce particulate matter emissions and sulfate pollutants. This option and Option 2 introduce 15 ppm sulfur gasoline, which is not needed for existing emissions technology. However, we need to reach that level of sulfur as a preemptive strike. Our long-term goal is to reduce the gap in emission standards between Camitia and the developed countries. Furthermore, if transition period between different level of sulfur gasoline in use is long, there is a risk of having two sulfur level. If the pricing of fuels are different, people tend to buy cheap fuels regardless of vehicle type, which causes misfueling.

2nd Choice: 300 ppm in 2006 and 30 ppm in 2011 (Option 2).

Oppose: 300 ppm in 2008 and 30 ppm in 2015 (Option 1). This option is unacceptable because it renders us unable to phase in new emissions standards quickly or even at a

moderate rate. According to the research team's report, this option will result in emission reductions of only about 8-10%. That is far from satisfactory in terms of health criteria.

Decision 2: Emission Standards for New Vehicles

1st Choice: MES 2 in 2011 (Option 3). We know from the industry's growing export performance that some firms have the capacity to build cars that meet developed countries' emissions standards. This option can help the industry to export more vehicles to developed countries with similar emission standards. We hope this option will be taken seriously by the CAIA; perhaps it will help if they are given some incentives such as the differential treatment option in I&M.

2nd Choice: MES 2 in 2013 (Option 2).

Oppose: MES 2 in 2016 (Option 1). We should avoid this situation. It is the worst outcome we can imagine.

Decision 3: Enhanced Inspection and Maintenance Program

1st Choice: Harmonization of the I&M Programs (Option 1). The VED wants to get high-polluting vehicles out of Varara, and so our I&M program is quite stringent and effective. However, about half a million vehicles registered in Varara have apparently undergone testing in Sandoa instead, where standards are lower. Given that fact, and given the transboundary movement of pollution from Sandoa to Varara, we urgently need to harmonize Sandoa's I&M standard with Varara's.

2nd Choice: OBD Systems and Emissions Warranties (Option 5). The VED would like all new vehicles sold in Camitia to have on-board diagnostic (OBD) systems and 100,000 km emissions warranties. This would reduce the number of "super-emitters" among relatively new vehicles. The automakers' refusal to provide warranties is clearly an effort to make consumers pay for manufacturing defects. We expect this offer to boost consumer demand for newer vehicles and facilitate the replacement of older, higher-polluting vehicles.

Decision 4: Public Transportation

1st Choice: Congestion Pricing (Option 4). This option is superior to the other options in terms of cost-effectiveness. It can reduce congestion in city centers and generate revenues for other environmental policy activities. We estimate that about US\$0.2 billion per year can be collected from this option.

2nd Choice: Regulated Competition for Microbuses (Option 5). Unregulated competition in the informal microbus “system” is the enemy of environmental quality, due to the excessive use of old, polluting vehicles. From our analysis, we believe their average age is greater than 10 years and they cannot last for much longer. We hope that the technology can be changed through regulated competition.

Oppose: Ring Road Construction (Option 2). The VED believes that there are more-effective, less-expensive policy options than ring road construction. Even if the scenario analysis shows that this option can reduce emissions by 7-8%, that’s only in the short term. New road construction encourages more driving and more vehicles; those new roads will be filled with cars in the future. Some strategies associated with public transportation have found little success despite very high costs. For example, a 1993 survey of transportation plans in the San Francisco Bay area highlighted the meager air-quality benefits of an \$11 billion investment program largely devoted to the transit system and the construction of high-occupancy vehicle lanes. The study revealed a reduction in hydrocarbons of less than 1 percent over the analysis period. A similar result was found in a study done in Colorado.

Decision 5: Assigning Enforcement Responsibility and Financing

The VED can contribute US\$1.25 billion to the effort to reduce ground-level ozone. In addition, a neighboring developed country granted us a US\$0.85 billion ecology loan to combat air pollution. Another country in our regional economic block has provided us with technical assistance in installing an air-quality-monitoring network. If we agree to create a public-private partnership to combat the pollution problem, we can likely get another US\$5 billion by 2018 from several other developed countries and the World Bank. The Environmental Trust Fund provides us with US\$0.4 billion per year for our program. We expect that the harmonization of I&M and congestion pricing, if implemented, could bring in US \$0.3 billion and US \$0.2 billion, respectively.

Summary of the VED's Position

- Priorities**
- (1) Fast phase-in of low-sulfur gasoline (Option 3)
 - (2) Fast phase-in of emission standards (Option 3)
 - (3) Harmonization of the I&M programs (Option 1)
 - (4) OBD systems and emissions warranties (Option 5)
 - (5) Try to find a package with at least 70% reduction in emissions

- Constraints**
- (1) Cannot agree to the slow phase-in of low-sulfur fuel (Option 1) or emission standards (Option 1)
 - (2) Do not agree to ring road construction (Option 2)
 - (3) We need congestion pricing to pay for implementation costs

Decision 1: Sulfur Content in Regular Unleaded Gasoline

- 1st Choice: 300 ppm in 2004 and 30 ppm in 2008 (Option 3)
2nd 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

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

Decision 3: Enhanced Inspection and Maintenance Program

- 1st Choice: Harmonization of the I&M Programs (Option 1)
2nd Choice: OBD Systems and Emission Warranties (Option 5)

Decision 4: Public Transportation

- 1st Choice: Congestion Pricing (Option 4)
2nd Choice: Regulated Competition for Microbuses (Option 5)
Oppose: Ring Road Construction

Decision 5: Assigning Enforcement Responsibility and Financing

- US\$1.25 billion directly from the VED
US\$0.85 billion ecology loan to combat air pollution
US\$0.4 billion per year from the Environmental Trust Fund
(US \$5 billion by 2018 on the condition that a private-public partnership is an option.)
(US \$0.3 billion per year from the Harmonization of I&M)
(US \$0.2 billion per year from Congestion Pricing)