

## CLEANER GASOLINE

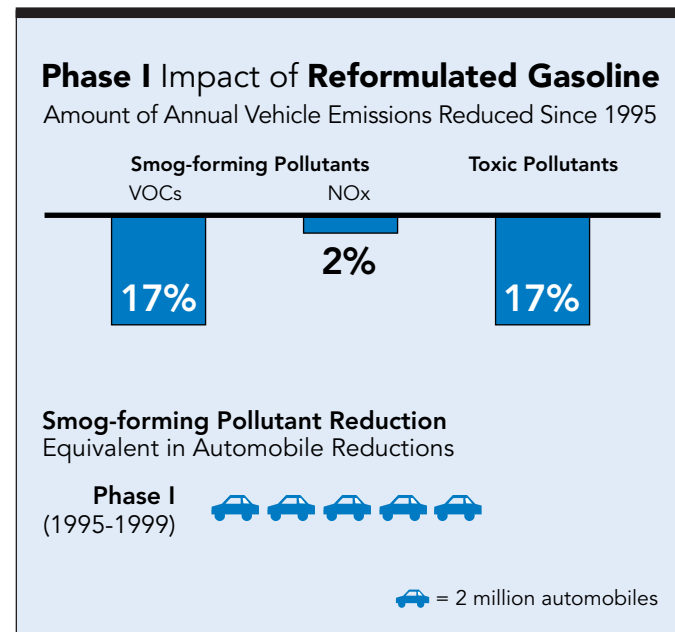
### PHASE I: A SUCCESS STORY

Phase I of the reformulated gasoline program was conducted from 1995 through 1999. During that time, drivers in 17 states and the District of Columbia used fuel blended to burn cleaner and reduce emissions. Today, this cleaner-burning fuel represents about 30 percent of the gasoline sold in the U.S.

The results of the Phase I program are impressive.

- By using reformulated gasoline, drivers have cut emissions of pollutants that cause smog 17 percent, compared to conventional gasoline.
- That 17 percent cut means that 64,000 tons of pollution are kept out of the air each year.
- Keeping 64,000 tons out of the air is like taking 10 million cars that burn conventional gasoline off the road.
- Drivers using reformulated gasoline have also cut emissions of toxic pollutants 17 percent.
- Benzene, a known cancer-causing compound, has been reduced 43 percent.

The graph below shows how drivers who use cleaner-burning reformulated gasoline are helping to reduce air pollution and protect the health of millions of Americans.



## CLEANER GASOLINE

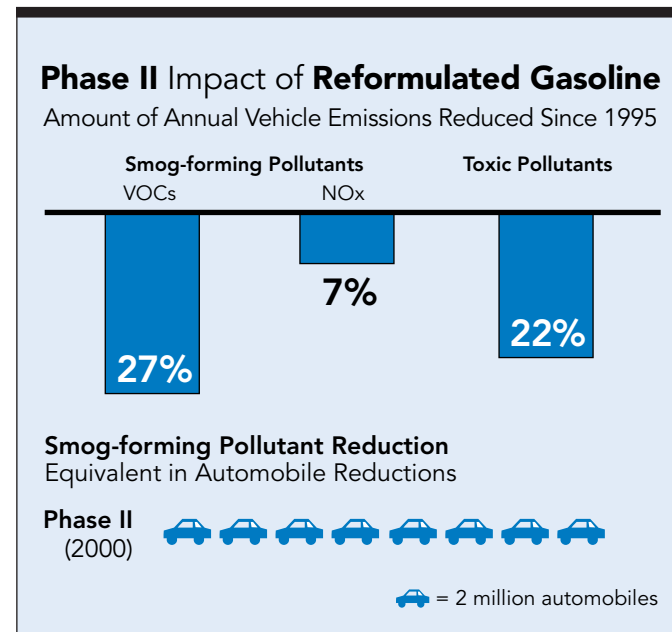
### PHASE II: GREATER AIR BENEFITS

Phase II of the reformulated gasoline program begins January 1, 2000. The formula for gasoline sold in cities and states that participate in the reformulated gasoline program will again be adjusted to help them move toward cleaner air.

The Phase II program will further improve air quality in cities with the worst smog.

- It will remove an additional 41,000 tons of smog-forming pollutants from the air, which is like taking 6 million cars that burn conventional gasoline off the road. Two of the key smog-forming pollutants are volatile organic compounds (VOCs) and nitrogen oxide (NOx). Compared to conventional gasoline, Phase II RFG will:
  - Cut the release of VOCs 27 percent.
  - Cut NOx emissions 7 percent.
- It will cut emissions of toxic pollutants 22 percent.

The combined impact of Phase I and Phase II of the reformulated gasoline program will be substantial. Reducing emissions of smog-forming chemicals by 105,000 tons is the equivalent of taking about 16 million vehicles that burn conventional gasoline off the road, as shown in the graph below.



# Phase II Reformulated Gasoline: The Next Major Step Toward Cleaner Air



## Reformulated Gas: Providing Cleaner Air For All Americans

In 1995, America took an important step to help clean the air we breathe. We started using gasoline blended to burn more cleanly, that reduces emissions and cuts smog in cities with the worst air quality.

The switch to "reformulated" gasoline (RFG) was part of a national strategy outlined by Congress in the Clean Air Act. The U.S. Environmental Protection Agency (EPA) has been working with states to implement a two-phase reformulated gasoline program to improve air quality.

Phase I of the reformulated gasoline program made great progress. Between 1995 and 1999, it cut smog-forming pollutant levels by about 17 percent compared to conventional gasoline in communities where 75 million people live and work.

Phase II, which begins January 1, 2000, takes another step toward cleaner air. It will reduce smog-forming pollutants 27 percent more than conventional gasoline.

## BASIC QUESTIONS ABOUT REFORMULATED GAS

### Why do we need reformulated gasoline?

Since Congress passed the first Clean Air Act in 1970, the U.S. has made tremendous progress in reducing air pollution from gasoline-powered cars and trucks. Today's vehicles are 98 percent cleaner than those on the road 30 years ago.

Despite these improvements, cars and trucks still cause much of the pollution in our cities. There are twice as many cars on the road traveling twice as many miles each year.

The reformulated gasoline program is helping to reduce pollution in areas with the worst air quality problems. Phase I of the program helped make significant progress in cutting emissions that cause smog and toxic air pollutants. Phase II will help make even more progress.

### How does reformulated gasoline differ from conventional gasoline?

Reformulated gasoline has the same components as conventional gasoline. However, the components

that contribute most to air pollution are further processed and refined. RFG is made in a way that prevents it from evaporating as quickly as conventional gasoline, and it contains chemical oxygen, known as oxygenate, to improve combustion. Reformulated gasoline performs at the same level as conventional gasoline and meets the power requirements of all gasoline vehicles.

### How does Phase II reformulated gasoline differ from Phase I reformulated gasoline?

Manufacturers will process and refine the components of Phase II reformulated gasoline to further reduce those that contribute most to air pollution.

### Will Phase II gasoline cost more?

EPA estimates it will cost one or two cents more per gallon to produce Phase II reformulated gasoline than Phase I. The slightly higher cost may be reflected at the pump in some cities, depending upon a variety of national, regional, and local market conditions. It is important to note that retail prices may be higher and more changeable at the start of the Phase II program.

### Will Phase II gasoline affect engine performance?

EPA tested Phase II RFG using fleets of cars and trucks in Boston, Chicago, and Houston, logging more than one million miles. Those tests document that vehicle performance with Phase II gasoline is as good as with Phase I gasoline. Tests on small engines, motorcycles and marine engines showed similar results.

### Will Phase II gasoline affect my gas mileage?

In EPA testing, vehicles using Phase II reformulated gasoline achieved the same miles-per-gallon performance as those using Phase I fuel.

### What should I know about health effects of reformulated gasoline components?

A 1998 study for a coalition of northeastern state air officials, NESCAUM, demonstrated that RFG substantially reduced the relative cancer risk associated with gasoline vapors by 12 percent in Phase I. The study estimates that in Phase II, cancer risks will drop 19 percent.

### Does MTBE in RFG pose a health threat?

In July 1999, a blue ribbon panel of independent experts convened by EPA recommended that the use of the oxygenate MTBE should be reduced without sacrificing the gains made in achieving cleaner air. MTBE has been detected in groundwater in some areas, usually as a result of leaking underground gasoline storage tanks. In most cases, MTBE concentrations are below levels of public health concern. Even at minute concentrations, however, MTBE produces a strong taste and odor that may make a water supply distasteful. EPA is improving regulations governing the storage and handling of gasoline to prevent MTBE and other chemicals from leaking into water supplies. EPA is also working with Congress to provide a targeted legislative solution that maintains the air quality benefits of RFG while allowing reductions in the use of MTBE.

For more information about RFG, visit us on the Internet at: [www.epa.gov/oms/rfg.htm](http://www.epa.gov/oms/rfg.htm)

### Where will Phase II RFG be used?

The Clean Air Act requires those metropolitan areas with the worst smog problems to participate in the reformulated gasoline program. Many communities and states also have opted to participate in Phase II voluntarily. The State of California implements its own reformulated gasoline program; in effect since 1996, it already meets the EPA Phase II RFG requirements. Shaded areas are federal reformulated gasoline areas.

