

What is the price of a gallon of gasoline? In the U.S., it's about \$3 or \$4.

Some experts say the true costs of that gallon are much higher. What about all the "invisible costs" of using gasoline? Who pays for that?

In Germany, a gallon costs more than \$8; in Switzerland, about \$6. What are they paying for that we're not?

Even if we don't "pay" at the pump, we all pay in the long term. So how does pollution translate into dollars?

We looked at a single gallon of gasoline refined and consumed in California. It produces about 25 pounds of greenhouse gas pollution ... about the same weight as a cocker spaniel.

Many of us have to rely on our cars every day. American drivers each use an average of 557 gallons of gas a year, multiply that by about 238 million cars and trucks ... that's a lot of cocker spaniels.

A single driver creates about 10,000 pounds of greenhouse gas pollution every year. It takes one acre of forest to absorb that pollution. For all U.S. drivers combined, it takes a forest roughly the size of California, Nevada and Arizona. Each year.

So where does all that pollution come from, and who's responsible?

Actually, the pollution begins the moment crude oil is pumped up from underground. We followed one gallon of gasoline from Saudi Arabia, where Americans get 12 percent of our imported oil.

This crude oil is pumped into giant oil tankers — the largest hold up to 2 million barrels. This releases about 2 pounds of greenhouse gases for every gallon of gasoline.

Then the tankers begin their 11,000-mile journey to California.

When the crude reaches the California refinery, it's mixed with oil from other places.

Here, the oil is heated, filtered and burned to make fuels and other products.

For every gallon you get at the pump, about 3½ pounds of greenhouse gases were created at the refinery.

Then the gasoline goes to your local station. On average, a diesel tanker travels 50 miles to deliver its cargo.

While the tanker truck driver refills the storage tanks, gas evaporates — and it's not just greenhouse gases. Other pollutants like benzene are really bad for your health. That's

what you smell when you pull into the station.

When you pull up and unscrew the gas cap — more gas evaporates, more pollution. You lift the nozzle — more pollution. See those wavy lines coming from the pump? Toxic chemicals and smog-forming gases.

Then you turn the ignition.

And when your car is hot, gas can evaporate straight through the metal without even being burned. On a hot day, even when the car is off.

How much pollution you create when driving depends on the kind of car you drive, the kind of gas you use, how you drive, tuneups, traffic, even the weather.

So the total amount of pollution created by the driver is highly variable. But, on average, it's more than 19 pounds of greenhouse gas pollution per gallon. That's three-quarters of the total pollution.

But what about the other costs of refining and using gasoline, like oil spills, water pollution from storage tanks, even reduced crop yields and respiratory illnesses like asthma?

Economists call these impacts “externalities.” In this case, it means costs born by society that are not included in the price.

For example, many low-income and minority groups live near highways, refineries, rail and shipyards. They suffer more from asthma and other respiratory illnesses.

In LA, the cost of air pollution adds up to more than \$1,250 per person per year — because of ER visits, lost workdays, missed school days, even death.

One study estimates these “external costs” range from \$550 billion to nearly \$1.7 trillion per year, just for the U.S. Add this to the price we pay at the pump? You're looking at up to \$15 per gallon.

Remember Germany's \$8-a-gallon gas? What are they actually paying for? They created an eco-tax on gas — about a dollar a gallon. Those funds go toward social programs and renewable energy. It's something, but really just a drop in the bucket.

What is the true price of gas? It's a lot more than we pay at the pump.