



## ENERGY FOCUS

### Motorcycles Thrill, Sadly They Spew Pollution, Too

By Adam Wasch, Energy Outreach Consultant for CCHRC and CES

I bought my first motorcycle last summer when gas prices were high and still rising. Gas prices had nothing to do with it. I wanted to go fast. I wanted to feel the panicky thrill of unadulterated physics. I wanted to feel free. Well, I got two out of the three things I wanted, which is pretty good for an impulse purchase by a man approaching his 40s faster than a fly waiting for a windshield on a freeway.

My two-wheeled rebellion against mortality did not prevent me from arguing that riding a motorcycle was perfectly sensible. Most motorcycles get excellent fuel mileage, in the range of 30 to 60 miles per gallon. Scooters can go even farther on a gallon of gas due to their super light weight (though, in a paradoxical concern for street safety, I can't recommend scooters).

I reasoned that riding a motorcycle would save me money at the pump *and* make me a good steward of the environment. Unfortunately I discovered that motorcycles, not to mention two-stroke scooters or off-road motorcycles, are terrible polluters. And it will take me more than 10 years of gas-saving riding (more paradox) to offset the purchase price of my motorcycle.

Motorcycles produce more harmful emissions per mile than a car or even a large SUV, says the U.S. Environmental Protection Agency, which sets emissions standards for most motor vehicles. The current federal passenger vehicle standard for hydrocarbon emissions is about 90 times more stringent than the standard for motorcycles. In an apple-to-apple comparison, this means that my 420 pound motorcycle, shockingly, emits about 10 times more hydrocarbons per mile than a 6,000 pound Ford Expedition 4x4. Older bikes or beefier models emit up to 20 times more than today's cars.

How is all this pollution possible? Well, due to their size limitations and relatively small market share, motorcycles have escaped the burden of increasingly stout emissions equipment. Nationally, motorcycles account for only 1 percent of road traffic and there isn't a lot of room for unsexy doohickeys. But times are changing. Since the latest standards upgraded in 2003, motorcycle manufacturers have increased their use of secondary air injection, electronic fuel injection, and even catalytic converters.

Even so, the rules only require emissions equipment to work for the first 5 years or about 20,000 miles of a motorcycle's life (cars are pegged at 10 years or 100,000 miles). Motorcycles are frequently exempted from emissions tests and are easily modified to produce more power by their obsessive owners, meaning that even more polluting bikes are on the road than the official numbers estimate.

There is a speedy yet environmentally-friendly alternative emerging. Electric motorcycles are on the way. For example, there's an endearingly named bike called the Killacycle, which tops out at 172 miles-per-hour (MPH) and can reach the 60 MPH mark in less than a second. Too bad the ride only lasts for about two miles. But more practical models are available. One U.S. company is producing a full-size motorcycle that can cruise at 50 MPH for 45 miles and recharges in three hours. Plus, it's priced low enough that you can still afford to buy some very good life insurance.

**Adam Wasch promotes energy awareness for the Cooperative Extension Service (CES) and the Cold Climate Housing Research Center (CCHRC).**

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