JOHN DAVIS: Americans are more concerned about fuel economy than ever before. And future high mileage technology looks promising. But, what’s the best way to go today if you want to fill up less often. Hybrids? Clean Diesels? Or just go small? We wondered too. So we picked 6 cars with stellar fuel economy ratings to see how they perform when driven to extremes. Welcome to MotorWeek’s 2009 Power and Economy Drive.

We prepared our 6 green cars, three full hybrids, and two clean turbocharged diesels, and a Smart ForTwo, the highest mileage non-hybrid car you can buy, for a typical weekend family outing, a drive to the mountains.

For the test we partnered with members of editorial staff of the Chicago based cars.com. They’re presence made sure that the big-city dwellers’ perspective would not be overlooked.

We also equipped each care with a Car Chip Pro data recorder. Car Chip helped us restrain the lead feet among us, since it sounds an alarm if you’re too hard on the gas or brake.

At $22,750 the 2010 Toyota Prius has a combined city-highway government fuel economy rating of 50 miles per gallon, the group’s highest.

The 2010 Honda Insight, at $20,510, is less expensive than Prius. But, at 41 MPG, its combined fuel economy is smaller too.

The $28,350, 2010 Ford Fusion Hybrid, is the first full-hybrid car from a domestic brand. Its combined fuel economy rating is 39 miles per gallon.

The 2009 Volkswagen Jetta TDI clean diesel, our Drivers’ Choice Best of The Year, is a natural for the drive. With a manual transmission, and a $22,970 base price, it rates a 34 miles per gallon combined.

The 2010 Audi A3 TDI goes on sale soon, with an estimated price of $29,000. It has the same engine as the Jetta TDI, but with an automatic transmission. It too rates 34 MPG combined.

Finally, the 2009 Smart ForTWO coupe. With a 36 miles per gallon combined rating, we wanted to see how this $12,635 two-seater would perform outside the city environment.

Our three day drive covered over 500 miles, from our studios in Owings Mills, to the Deep Creek Lake region near Cumberland, Maryland. Roads were a good mix of two-lane blacktop, high speed interstate, small town streets, and of course, plenty of mountain switchbacks.

None of them fazed the Toyota Prius hybrid. With a total output of 134-horsepower, it seemed up to any challenge.

PATRICK OLSen, AUTOWRITER-PBS, CARS.COM- SPEED ONLY!: Toyota is on the third generation of the Prius and I think they nailed it this time – the inside is much more refined and very roomy.

DAVIS: But, we were still amazed that the Prius averaged 49.2 miles per gallon. That’s very close to the government’s rating and the group’s best result.
SHAMIT CHOKSEY, MOTORWEEK: They’ve done a great job with the third-generation Prius. It’s almost a premium car now.

DAVIS: Even though the 2010 Honda Insight hybrid has only 98-horsepower, it too took the higher terrain in stride. Comfort was good, but noise could be lower.

KELSEY MAYS, AUTOWRITER-PBS, CARS.COM- SPEED ONLY!: Honda says the Insight is the most affordable hybrid on the market and because of that it feels a little bit more like an econobox, but you still get pretty good mileage.

BRIAN ROBINSON, MOTORWEEK: Honda Insight – fun-to-drive little hybrid, economy feel: but goes along with its economy price.

DAVIS: Insight fuel economy hit 40.5 miles per gallon, again just slightly less than the government rating.

We expected the Ford Fusion Hybrid to be our least fuel efficient car. But that’s because it’s every bit a typical mid-size family sedan, with no compromises.

If you want the comfort and amenities of a long-distance car, and great mileage, the Ford Fusion Hybrid is the real deal.

And, even with a group high 191 horsepower, it still returned 32.9 miles per gallon.

OLSEN: What I like about the Ford is it looks like a family sedan, but they need to work on that engine noise. It’s really annoying at high speeds.

DAVIS: Now to our diesels. This 2009 Volkswagon Jetta TDI sports 140 horsepower, a manual transmission, and German sport sedan suspension tuning. It was easily the group’s favorite car to drive.

CHOKSEY: A great package overall, I mean, that’s why we called it our car of the year.

DAVIS: As to VW’s claims that a turbo-deisel can match hybrid fuel economy, we’d say that’s debatable. At 36.2 miles per gallon it beat its government rating, but still trailed Prius and Insight.

MAYS: The Jetta TDI is a lot of fun to drive, and you don’t expect that for a fuel-efficient car.

DAVIS: The Audi A3 TDI showed the best combination of driver enjoyment and practicality of our group. With the same turbo diesel as the Jetta, it too zoomed up the mountains with ease.

ROBINSON: Love the small wagon roominess of the A3; fun-to-drive; love the diesel.

OLSEN: I enjoyed the ride in the A3 but I found the car overall a little cramped.
DAVIS: A3 TDI fuel economy actually beat Jetta, at 38.2 miles per gallon, due in large part to the S-Tronic Twin-Clutch transmission that when left in full automatic, shifts faster than the human hand.

Finally, the Smart ForTwo. With only 70 horsepower, we expected the mountains and high speed interstates to take their toll. But, they really didn't. The ForTwo managed to keep up very well.

This trip proved to me that the Smart is more than just a city car. It kept up with the group and turned a lot of heads to boot.

Improvements in the Smart's transmission greatly reduced the jerkiness we noted in our original test.

Given how far the Smart was out of its element, 35.3 miles per gallon, again very close to the government rating, is impressive.

MAYS: The ForTwo is easy to park, and it's pretty roomy for its size, but the deal-breaker for me is the fact that, despite its high mileage, it needs premium gas.

DAVIS: In comparing government ratings with our Power and Economy Drive results, it's clear that hybrids, diesels, as well as small, light-weight designs, all can, when driven sanely, meet the high mileage expectations of consumers. And, that's great news for today's most fuel conscience buyers.

High fuel economy cars, in general, have fewer compromises than ever before, and can handle all kinds of routine driving chores. In fact every one of our six cars, even the Smart, can stand alone as the household's only car. And that to us, is very green progress indeed.