

## Appendix F. “Off-the-Shelf” Conventional Vehicle Technologies

Numerous conventional technologies capable of reducing a vehicle’s fuel consumption and carbon dioxide emissions are already on the road today. Some of these designs offer modest fuel economy gains on their own. Packaged with other fuel-efficient technologies, even greater increases in fuel economy and carbon emissions reductions can be achieved. Shown below is a non-comprehensive list of advanced engine, transmission, and electrical system technologies capable of reducing carbon emissions, and the model year 2008 vehicles outfitted with the respective technologies. This list was compiled using data from *www.cars.com*, *www.fueleconomy.gov*, the Environmental Protection Agency’s Green Vehicle Guide (*www.epa.gov/greenvehicles*), and automakers’ websites.

### ***Engine Technologies***

#### **Cylinder Shutoff Control**

- Buick LaCrosse
- Chevrolet Impala, Tahoe, Tahoe Hybrid
- Chrysler 300C, Aspen
- Dodge Charger, Durango, Magnum, Ram
- GMC Envoy, Sierra, Yukon, Yukon Hybrid
- Honda Accord, Odyssey, Pilot
- Hummer H3
- Jeep Commander, Grand Cherokee
- Pontiac Grand Prix
- Saab 9-7X

#### **Direct Injection**

- Audi A3, A4, A6, A8, Q7, R8, RS4, S5, S6, S8
- BMW 335
- Cadillac CTS, STS
- Chevrolet Avalanche, Cobalt, Express, HHR, Silverado, Suburban, Tahoe, Trailblazer
- Dodge Ram, Sprinter
- Ford F-250, F-350
- GMC Savana, Sierra
- Jeep Grand Cherokee
- Lexus GS 350, GS 460, IS 250, IS 350, IS F, LX 570
- Mazda CX-7
- Mercedes-Benz GL330
- Pontiac Solstice
- Saturn Astra, Sky Redline
- Volkswagen Eos, GTI, Jetta, Passat, Touareg

## **Turbocharging**

- Acura RDX
- Audi A3, A4, TT
- BMW 135, 335, 535
- Chevrolet Cobalt, Express, HHR, Silverado
- Chrysler PT Cruiser
- Dodge Ram, Sprinter, Caliber
- Ford F-250
- GMC Savana, Sierra
- Jeep Grand Cherokee
- Mazda CX-7
- Mercedes-Benz ML320, GL 330
- Mini Cooper, Clubman
- Mitsubishi Lancer
- Pontiac Solstice
- Porsche Cayenne
- Saab 9-3, 9-5
- Saturn Sky
- Subaru Forester, Impreza, Legacy, Outback
- Volkswagen Eos, GTI, Jetta, Passat, Touareg
- Volvo C30, S80, V50

## **Variable Valve Control**

- Acura RL, TL, TSX
- Audi A3, A4, A5, A6, A8, Q7, R8, RS4, S4, S5, S6, S8, TT
- BMW 1, 3, 5, 7 Series, Alpina B7, M, X, Z Series
- Buick Enclave, LaCrosse
- Cadillac Escalade, STS, SRX, XLR
- Chevrolet Cobalt, Colorado, Impala, HHR, Malibu, Silverado, Suburban, Tahoe Hybrid
- Chrysler Sebring
- Dodge Avenger, Caliber, Viper
- GMC Sierra, Yukon, Yukon Hybrid
- Honda Accord, Civic, Civic Hybrid, CR-V, Element, Fit, Odyssey, Pilot, Ridgeline, S2000
- Infiniti EX35, FX 35, FX 45, G35, GS37, M35, M45
- Jeep Compass, Patriot
- Mercury Milan, Sable
- Nissan Altima, Altima Hybrid, Armada, Frontier, Maxima, Pathfinder, Quest, Rouge, Sentra, Titan, Versa, Xterra
- Pontiac G5, G6, G8, Solstice, Vibe
- Saturn Astra, Aura, Aura Greenline, Outlook, Sky, Vue, Vue Greenline
- Scion tC, xB, xD
- Toyota 4Runner, Avalon, Camry, Camry Hybrid, Camry Solara, Corolla, FJ Cruiser, Highlander, Highlander Hybrid, Land Cruiser, Matrix, Prius, RAV-4, Sequoia, Sienna, Tacoma, Tundra, Yaris

# ***Transmission Technologies***

## **Automatic Manual Transmission**

- Audi A3, A8, TT
- BMW M3, M5, M6, X3, X5, X6, Z4
- Mitsubishi Lancer
- Volkswagen Eos, GTI, Jetta, R32

## **Continuously Variable Transmission**

- Audi A4, A6
- BMW X6
- Chevrolet Tahoe Hybrid
- Ford Escape Hybrid
- GMC Yukon Hybrid
- Honda Civic Hybrid
- Jeep Compass, Patriot
- Lexus RX 400h, GS 450h, LS 600h L
- Mazda Tribute Hybrid
- Mercury Mariner Hybrid
- Mini Cooper
- Mitsubishi Lancer, Outlander
- Nissan Altima, Altima Hybrid, Maxima, Rogue, Sentra, Versa
- Toyota Camry Hybrid, Highlander Hybrid, Prius

## **Six-Speed Automatic Transmission**

- Audi A3, A4, A6, A8, Q7, R8, S4, S6, S8, TT
- BMW 3, 5, 6, 7 Series, Alpina B7, X3, X5, Z4
- Cadillac CTS, SRX, STS, XLR
- Chevrolet Corvette, Equinox, Malibu
- Land Rover LR2, LR3, Range Rover
- Lexus ES 350, GS 350, GS 450h, IS 250, IS 350, LX 570, SC 430
- Mazda CX-7, CX-9, MX-5, RX-8
- Mini Cooper S Convertible
- Mitsubishi Outlander
- Pontiac G6, G8, Torrent
- Saab 9-3
- Saturn Aura, Vue
- Toyota Avalon, Camry, Land Cruiser, Sequoia, Tundra
- Volkswagen Eos, GTI, Jetta, New Beetle, Passat, R32, Rabbit, Touareg
- Volvo S80, V70, XC 70, XC 90

## ***Accessory Technologies***

### **Electric Power Steering**

- Audi A3, A4
- Chevrolet Equinox, Malibu, HHR
- Ford Escape, Escape Hybrid, Fusion
- GMC Yukon Hybrid
- Honda Civic Hybrid, Fit, S2000
- Lexus IS F
- Mercury Mariner, Mariner Hybrid
- Nissan Altima Hybrid, Rogue, Sentra, Versa
- Pontiac G5, G6
- Saturn Aura, Aura Greenline, Vue, Vue Greenline
- Scion xB, xD
- Toyota Camry Hybrid, Corolla, Highlander, Highlander Hybrid, Prius, RAV-4, Yaris

© May 2009 Union of Concerned Scientists