

# Audi 'green' issues and sustainability

## Saving fuel and reducing emissions – Audi start-stop.

The following models in the Audi range benefit from an automatic start-stop function for greater fuel and CO<sub>2</sub> efficiency, while brake recuperation adds to optimal energy utilisation:

- ▶ A1 (all models with manual transmission).
- ▶ A3 (all models with manual transmission, excluding 1.6, 1.8 TFSI, 2.0 TFSI and S3).
- ▶ A4 (all 2.0 TDI and 2.0 TFSI models with manual transmission).
- ▶ A5 (all 2.0 TDI and 2.0 TFSI models with manual transmission).
- ▶ New A6 (C7) (all models).
- ▶ A7 Sportback (all models).
- ▶ TT (recuperation only).
- ▶ Audi Q5 (2.0 TDI and 2.0 TFSI models with manual transmission).
- ▶ Audi Q7 (3.0 TDI models).



## How it works: start-stop

The Audi start-stop system uses state-of-the-art technology to deliver real world benefits without any need to change driving style. It works as follows:

- ▶ When a start-stop-equipped vehicle comes to rest with the gearstick in neutral and the driver's foot removed from the clutch pedal, the engine switches off.
- ▶ A confirmation message is shown in the dash display (see right).
- ▶ The brakes automatically maintain enough pressure to hold the car on a slope with a gradient up to 10%, whether facing up or down.
- ▶ The engine restarts as soon as the driver depresses the clutch pedal (or releases the brake pedal on automatics). An updated starter motor restarts the engine in about two tenths of a second – faster, more quietly and more comfortably than on other cars equipped with similar systems.
- ▶ By the time the driver has engaged first gear and is ready to release the clutch (or releases the brake pedal on automatics), the engine has reached idle speed prior to driving away.
- ▶ Start-stop is activated automatically once the engine is warm, but can be deactivated at any time by pushing a button on the dash.



## Less wasted motion – efficiency through recuperation.

The Audi A3 1.4 TFSI with manual transmission, all Audi A4, A5 Coupé, new A5 Sportback and A5 Cabriolet derivatives, plus the A6, Audi Q5 (pictured below right) and Audi Q7 ranges are now fitted with a brake energy recuperation system which makes use of the car's kinetic energy during deceleration.

## How it works: recuperation

Brake energy recuperation makes use of a car's kinetic energy during deceleration. The vehicle's alternator converts the kinetic energy produced during braking into electrical energy which is then stored in the battery, reducing the load on the alternator and helping to



reduce fuel consumption.

**Benefits to fleet operators and drivers: start-stop**

- ▶ Reduced CO<sub>2</sub> emissions promotes lower BIK tax for drivers than previously as start-stop-equipped models fall into lower tax bands than non-start-stop-equipped cars.
- ▶ Employers' Class 1A National Insurance Contributions are reduced as these are also based on CO<sub>2</sub> emissions.

**World-class, clean-burning TDI technology.**

Audi's TDI diesel engine technology is proven on road and track, with the diesel-powered R10 TDI sports-racer taking three consecutive outright wins at Le Mans in 2006, 2007 and 2008. In many circles, TDI is seen as the generic term for technical excellence. TDI models are available across the Audi range (except R8).

**Lower CO<sub>2</sub> emissions with Audi TDI.**

High-efficiency TDIe models are available in the A4 and A6 ranges, offering superb fuel consumption and low CO<sub>2</sub> emissions.

The new A4 2.0 TDIe Saloon is the latest high-efficiency model in the Audi range, and possesses CO<sub>2</sub> emissions of just 119g/km, placing it in the 13% band for BIK tax – the most advantageous for a diesel. With combined fuel consumption of 61.4mpg, it makes the Audi A4 2.0 TDIe one of the most efficient models in the compact executive sector. Yet with a healthy 136PS, it blends spirited performance with fine dynamic appeal.

The TDIe technology in the A6 and A6 Avant ranges enables both models to emit just 139g/km of CO<sub>2</sub> and achieve 53.3mpg on the combined cycle.

The 1.6 TDI engine powering the A1, A3, A3 Sportback and A3 Cabriolet offers CO<sub>2</sub> emissions from just 99g/km in the A3 1.6 TDI Standard together with combined consumption of 74.3mpg.

**Audi valvelift system enhances performance from TFSI engines.**

The Audi valvelift system controls engine valve lift on TFSI petrol engines in two stages, ensuring optimum combustion chamber filling under all engine load situations. It regulates the amount of combustion air drawn into the engine by varying inlet valve lift; in most cases the throttle butterfly can therefore remain fully open, which largely eliminates undesirable throttling losses. The engine therefore breathes more freely and develops higher power and torque with lower fuel consumption and emissions.

**Sports models benefit from lower CO<sub>2</sub>.**

The new V6 3.0 TFSI engine in the all-new Audi S4 and S4 Avant not only decisively outperforms its V8 predecessor but does so with a 30% reduction in CO<sub>2</sub> emissions and improved fuel consumption.

A supercharger and direct injection FSI technology with valvelift help the new S4 Saloon return 29.1mpg on the combined cycle – a 27% improvement over the previous V8-powered S4 – while emitting 225g of CO<sub>2</sub>, 30% lower than its predecessor (S4 V8 manual 322g/km).

