ECODRIVING

What is ecodriving?

It is possible to save up to 20 % of fuel consumption by energy-efficient driving. This saves your money and also the environment. However, ecodriving is a broader term. It begins with the choice of appropriate way of transport, continues with the choice of the right car at acquisition, energy-efficient driving, smart use of air-conditioning and it ends by environmentally friendly car washing. Ecodriving is simply the approach, which reduces detrimental effect of driving or mobility on the environment.

Before you start the engine

think about other ways of the transport – prefer **walking up to** 1 km, **riding a bicycle** or using **municipal transportation system for the distance up to 10 km**. For longer distances travel by **public transport** –you do not drive, so you can work on your laptop, watch the countryside or just relax.

Car-sharing means to have an available car, but not to own it. Miscellanous types of cars are often available.

Carpooling means sharing car journeys so that more than one person travels in a car.

Choose the right car

By choosing the right car at acquisition it is possible to influence substantially environmental pollution and also driving costs. The most environmentally friendly type of propulsion is **electricity** (optimal from renewable sources), then **gas** (LPG, CNG), **hybride** and at the end petrol. The dirtiest propulsion is diesel, because of carcinogenic particle matters originating in the combustion process. Diesel vehicles should by equipped with diesel particle filter. If you use your car for short drives and for urban driving, prefer gas or petrol variant to diesel. Moreover, petrol vehicle can be retrofitted to LPG, what reduces fuel costs by half.

Before driving

- With good **trip planning** you can save time and fuel. Try to avoid traffic jam, and do not get lost. Combine short trips into longer one.
- **Clean junk from your trunk** – remove things from your boot, which you do not need. Every 100 kg of extra weight consume 0,5 l of fuel per 100 km.
- **Remove unused roof racks and boxes.** Roof rack or box increases vehicle consumption by 1 - 2 l per 100 km depending on speed.
- **Check tire inflation regularly**. Underinflated tires cause high rolling resistance, what increases fuel consumption and wear of tires.
- **Maintain your vehicle**, Change oil, spark plugs (gasoline engines) and oil and air filter regularly. You can save 4 - 10 % of fuel.
- **In winter clean snow and ice off your vehicle**. Besides safety increasing, it reduces aerodynamic drug and an extra load, too. 1 m^2 of 10 cm snow layer weighs about 10 - 60 kg (depending on water content). Removing frost reduces the use of energy consuming electric defrosters.
- **Car washing** – prefer car washes with low water comsumption, easily degradable natural detergents e. g. soap nuts.

Correct operation and maintenance of diesel particulate filters (DPF)

Diesel engines produce a lot of carcinogenic soot particles, so all diesel cars **should be equipped with diesel particle filters (DPF)**. For correct operation and maintenance of DPF these recommendations should be followed:

- if you use diesel car for short (urban) trips only, it is needed from time to time (not later than DPF warning light indicates a problem with filter) to drive continuously for longer distance at 2000 – 3000 RPM (optimal on highway) for at least 10 minutes to enable regeneration process of DPF, in which trapped soot particles are burnt.
- regularly (once or twice a year) clean the DPF from noncombustible particles in professional cleaning services.
- keep the engine in good condition. Co-burning of oil in the engine damages DPF.

Ecodriving tips while driving and parking tips

- Set off just after starting the engine. The engine is getting warm by driving more efficiently than idling.
- Minimize idling. Turn off the engine if you are going to be stopped for more than 30 seconds. Fuel consumption while warm engine is idling is cca 0,5 – 1 l per hour.
- **Avoid aggresive driving, minimize braking and acceleration, anticipate**. Drive fluently with traffic flow *„Drive as if your brakes were damaged.“* **Maximize using of vehicle inertia**. Aggresive driving (braking and acceleration) increases fuel consumption by about 20 %.
- **Use the engine as a brake**. When the accelerator is released, there is no fuel consumption, brakes are saved up.
- **Shift up early** – at about 2 000 RPM (diesel) and 2 400 RPM (petrol). Driving at 50 km/h in 3rd gear consumes by1 l per 100 km of fuel more than using 5th gear.
- **Do not drive too fast**. Cruising at 130 km/h can use up to 25 % more fuel than at 115 km/h.
- **Close the windows**, it decreases aerodynamic drag and so the fuel consumption is lower. Over 65 km/h use air conditioning or ventilation and close sunroof.
- **Turn off electrical appliances**, if you do not need them. Every 100 watts of input power increase fuel consumption up to 0,1 l/100 km. Turned-on fog lights can increase fuel consumption by about 0,2 l/100 km, booster with high performance by about 0,4 l/100 km.
- **Use the "corridor effect"**. Driving within a flow of traffic is more efficient than going in isolation (lower aerodynamic drag). However, be careful of keeping safe distance**.**
- **If you are driving in a traffic jam**, leave much space ahead of you to be able to drive fluently. Maximize using of vehicle inertia and coasting driving (in neutral).
- **Park in the "periphery"** of a busy site, it is more efficient than manoeuvring to get as close as possible.
- **Start up at the end**, when everything is adjusted (e.g. seat, mirrors) and your seatbelt is fasten.

Smart use of air-conditioning

Air-conditioning can increase fuel consumption more than 2 l per 100 km, so its smart use is very important.

- **Park in the shade**. Cooling of overheated car consumes a lot of energy. Dark car colours heat up more intensively.
- **Ventilate well before driving in summer** (when parking in the sunshine). This reduces the interior temperature so energy for cooling will be lower. Cooling of overheated car can increase fuel consumption by 2,5 – 4,2 l/100 km.
- **Turn off air-conditioning for short trips**. Air-conditioning does not manage to cool down the car interior.
- **Do not activate air-conditioning automatically**, but only when you really need it. Turn on the air-conditioning and cooling the car interior by 1 °C increase fuel consumption by 14 %. At the temperature of 35 °C and cooling to 24 °C the fuel consumption is increased by 38 %.
- **Keep windows closed after starting your journey**.
- **Do not set the temperature too low**. The difference (outside/inside temperature) should not exceed 6 °C.
- **Turn off air-conditioning before the end of your journey**, to enable humidity to evaporate from cooling system. You will also utilize accumulated coldness without any additional fuel consumption.
- **Ensure regular maintenance of air-conditioning**. Refill the refrigerant once per 2 years, clean the system every year (filters, etc.).

More about ecodriving you can find in **Ecodriving Technical Report Summary** at:
http://www.cepta.sk/attachments/article/515/EcoDriving-TechnReportENSum.pdf

Clean Air

Clean Air is a project by nine European environmental organisations that fight for clean air in European cities. Despite the existing legislative framework and the citizens' right to clean air, continuing violations of air pollution limits remain a problem in many cities. Air pollution threatens health, environment and climate. It's time to take action!
www.cleanair-europe.org

Started in 2009, the associated campaign "Sootfree for the Climate" aims to reduce diesel soot emissions, which accelerate climate change and pose a threat to public health. To this day twelve European NGOs have joined the campaign.
www.sootfreeclimate.org

a project by
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