

## 2.3 Alternative fuels

### Lesson outcomes

At the end of this activity students will be able to:

- identify alternative fuel sources for vehicles
- discuss advantages and disadvantages of alternative fuel technologies.

### Key vocabulary

Electric car, rechargeable lithium batteries, petrol-hybrid car, hydrogen fuel cell-electric car, solar car, biofuel, biodiesel, bioethanol, plug-in hybrid electric/petrol, plug-in hybrid electric/petrol/biofuel/hydrogen

### Equipment list

Each **CLASS** will require:

- internet access

Each **STUDENT** will require:

- *Student Guide*
- **Notebook**

### Things to consider

- Before watching the videos show students the **Notebook** exercise. This will help them focus on the required information.

### Teacher content information

The video '*Fossil fuels*' (08/09/2015, 3:44 minutes) explains what fossil fuels are and how they formed and reports on the 2015 G7 meeting where leaders of the world's seven largest industrial nations (Canada, France, Germany, Great Britain, Italy, Japan, United States of America) have decided to phase out fossil fuel use by the end of the century.

The video '*Beyond petrol*' (01/03/2007, 12:04 minutes) provides a 2007 snapshot of alternative fuel technology for cars. This is a dynamic area of development, further complicated by the rise of Uber and the development of driverless cars.

### Lesson plan

**Step 1:** Ask students what sort of car they would hope to drive in eight to ten years' time?

**Step 2:** If the prediction is true that 90 per cent of the Earth's crude oil reserves would be used by 2050, brainstorm what could happen to transport and vehicles if our use of crude oil does not change.

**Step 3:** Allow students time to explore the rollover text for each of the alternative fuel cars.

**Step 4:** Either project the videos onto a screen and watch as a class, or allow students to watch them individually with earphones.

**Step 5:** Conclude with a class discussion highlighting the advantages and disadvantages of the alternative fuel technologies. Does one technology appear better?

### Follow up:

Encourage students to use the internet to research these alternative fuel sources further and present their findings to the class.