

## A4 ACTIVITY 2: WHAT MOVES?

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### Background

Faraday used the principle of **electromagnetic induction** to construct the **dynamo**, which could be considered the forerunner of modern power generators. The principle of **electromagnetic induction** is still fundamental to all energy generators. Having carried out Faraday's classic experiment the next step is to explore **how this principle is present** in many of the ways in which **primary** and **secondary sources** are used to address energy needs.

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### What to do:

1. Arrange the students into teams and assign each team one of the following electrical energy generators:
  - a) Coal burning generators
  - b) Natural gas burning generators
  - c) Nuclear power plants
  - d) Wind farms
  - e) Hydro power generators
2. In the case of each of the generators consider the following:
  - ① *What primary source is used?*
  - ② *Is the primary source freely available?*
  - ③ *If it is not freely available, is it available locally?*
  - ④ *If it is not available locally, from where can it be obtained?*
  - ⑤ *How is the primary source used to generate electricity?*
  - ⑥ *How are each of the following used to generate electricity?*
    - i) Steam turbines
    - ii) Gas combustion turbines
    - iii) Water turbines
    - iv) Wind turbines
- What environmental issues might be associated with your assigned generator? How are they addressed?

Each team will decide how to present their responses (e.g. poster, oral, PowerPoint presentation, pamphlet). Encourage them to be creative and imaginative.