

Discipline-specific vocabulary: Energy**Lesson Objectives:**

1. Learn new vocabulary in the domain of engineering.
2. Use the *Hong Kong Corpus of Engineering* as a tool for inductive learning.
3. Understand collocations in context.

Length: approx. 1h

Target students: English for Specific Purposes (Engineering)

Activity 1**Forms of Energy**

Type of Energy	Description
Kinetic energy	Energy in the form of movement – in moving objects
Light energy	Light produced from the sun or a lightbulb
Chemical energy	Energy stored in substances that produce a chemical reaction
Sound energy	Energy in the form of noise
Electrical energy	Energy in an electric current

Now brainstorm some examples for each category

Type of Energy	Examples
Kinetic energy	
Light energy	
Chemical energy	
Sound energy	
Electrical energy	

Activity 2

Watch the video *How do trains work?* and decide whether the following statements are *true* or *false*.

Link: <https://www.youtube.com/watch?v=ckxOldcv4W8>

- 1- The earliest trains were gravity powered or pulled by horses.
- 2- Later trains were powered by locomotives driving on steam.
- 3- The wheels of steam trains were turned by pistons.
- 4- Diesel has powered trains since the 1970s.
- 5- Diesel trains require high maintenance.
- 6- Diesel trains can be quite noisy.
- 7- Electric trains collect electricity through a pantograph.
- 8- Electric trains are light and therefore cause little wear to the track.
- 9- 40% of Britain rail network is going to be electrified.

Activity 2.1

Discuss in groups

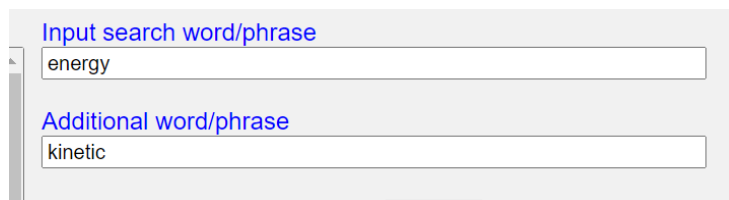
- 1) What do you know about your local train system?
- 2) How are your local trains powered?
- 3) What are the main issues associated with your local train system?

Activity 3

You will now use the **Hong Kong Corpus of Engineering** and identify the words which best fit in the gap in the statements below.

In order to search the corpus, follow these steps:

1. Go to <http://rcpce.engl.polyu.edu.hk/index.html>
2. Click on **KWIC** (1st column) for the **Hong Kong Corpus of Engineering**
3. Go to the search box and enter the input search word '*energy*'. You may also choose to enter an additional word if you want your search to be more specific. For example, if you wish to examine the collocation kinetic energy, kinetic could go into the additional word search box – see illustration below:



Input search word/phrase
energy

Additional word/phrase
kinetic

4. Look at the results and decide which word best fits in the gaps of the following statements.

Fill in the gaps

- 1) It is not possible to destroy or create energy. Rather, energy is _____ from one type to another.
- a) Calculated b) converted c) reversed
- 2) When a system _____ light energy, its component molecules experience an increased vibration which, in turn, leads to an increase in temperature.
- a) Consumes b) transforms c) absorbs
- 3) A track-drive tractor is a common example of _____ mechanical equipment
- a) Powered b) electrical c) chemical
- 4) A substantial _____ of energy could be saved when residential buildings are well designed.
- a) amount b) number c) body
- 5) To depend on China for electricity _____, electricity has to flow across the South China networks before getting into the Hong Kong networks.
- a) Energy b) supply c) offer