

- Student worksheet for case study - Green buildings: Hong Kong Science Park / Zero Carbon Building / Towngas Headquarters



Generic green skills

Cognitive competencies:

- Systems and risk analysis, skills to assess, interpret and understand both the need for change and the measures required
- Environmental awareness and a willingness to learn about sustainable development
- Innovation skills to identify opportunities and create new strategies to respond to green challenges

Interpersonal competencies:

- Marketing skills to promote greener products and services

Technological competencies:

- Management systems (waste, energy, water)
- Impact and use minimization



Learning objective

You will be able to:

1. Recognize the different green technologies used in green buildings and understand how they work
2. Identify technologies used in green buildings that can be adapted for use on your campus or workplace to improve environmental performance
3. Advocate your ideas effectively



Format

Individual and pairs and small group work



Resources needed

A3 paper, colored pencils, case study



Time required

1.5 hours



Assessment

You will be assessed based on:

Group presentation where you will be marketing a selected green technology. Everyone should be assigned a specific part of the group presentation.

Before the class:

1. Have a close look at the green building standards summarized in the information sheet.
2. Think about the differences between green building standards in Hong Kong and Mainland China and make notes.

During the class:

Part 1: Whole class activity

1. Form groups of six. Class discussion will be moderated by the teacher: Refer to the green building standards on the information sheet, identify the differences between green building standards in Hong Kong and Mainland China.
2. Work in pairs: discuss with the teacher which green building you will focus on during this activity to ensure that different buildings have been selected. Discuss which green technologies have been used in this building. How do they work? Fill in the worksheet.

Green technologies	How do they work?
e.g. Natural daylight is used by employing roofing material, which has high transparency properties.	'Green 18' used this material to construct the roof, which can effectively introduce natural daylight to different areas of the building.

You can also select the green building in Chai Wan THEi campus. Find more at: <https://www.thei.edu.hk/life-at-thei/campuses-facilities/chai-wan-new-campus>



The green building in Chai Wan THEi Campus



The large user-friendly learning commons

3. Share the findings in your group with reference to the assigned case.
4. The teacher will invite several students to present to the whole class.

Part 2: Group discussion and presentation

1. In a group of six, discuss what and how identified technologies could be used to green your campus (or workplace or community). You can reflect on the environmental issues identified on campus or on other sites from your previous activity.
2. Make a poster (in draft format) to market technologies you propose could be used on campus (or workplace or community).
3. Present your group poster (ideas are more important than artistic presentation) to the whole class. Let several students in your group (or everyone if time permits) to give part of the presentation.



Reference:

Green Buildings and the City. (2012). Retrieved from <https://www.wwf.org.hk/en/?6483/green-buildings-and-the-city>

Towngas Headquarters is the first non-residential building in Hong Kong to achieve Platinum rating under BEAM Plus Existing Buildings v1.2. (2016). Retrieved from https://www.towngas.com/getmedia/8fba4dea-3efb-4577-8d01-a063b809f6c9/20160810_Towngas_BEAMPLUS_Press-Release-Eng-Final.pdf.aspx?ext=.pdf

What is Zero Carbon Building?. Retrieved from <https://zcb.cic.hk/chi/home>

ZCB - BEAM Plus Online Exhibition. Retrieved from <http://greenbuilding.hkgbc.org.hk/projects/view/39>