

Addendums to the EMSD Liberal Studies Education Kit (Issue Date: May 2016)

Booklet	Location	Amendments
Energy Efficiency	Contents	<ul style="list-style-type: none"> Replace 4th item under “Energy Principles” with “How Do We Use Energy”.
	Page 11 blue box	<ul style="list-style-type: none"> Replace first bullet with “when not using electrical appliances, switch them off to avoid stand-by power modes.”.
	Page 25 yellow box	<ul style="list-style-type: none"> Replace “primary energy” with “energy consumption” .
	Page 25 blue box	<ul style="list-style-type: none"> The paragraph under “Leaky electricity” should be replaced by “The electricity consumption of different electric appliances in standby mode varies. Assuming that the standby electricity consumption for an appliance is 1 Watt and a family normally has about 10 to 20 electrical appliances in standby mode, switching off all such standby appliances may reduce household electricity consumption by up to 3%.”.
	Page 34 purple box	<ul style="list-style-type: none"> Replace “Until March 2014” with “Until end March 2017”.
	Page 39 orange box	<ul style="list-style-type: none"> Replace second bullet point with “As of end February 2016, there were about 1,300 public electric vehicle chargers in Hong Kong covering all 18 districts.”.
	Page 40 blue box	<ul style="list-style-type: none"> Replace second sentence in the first paragraph with “As at end February 2016, there were 245 electric vehicles employed by the Government and the total number of electric vehicle was over 4,600 in Hong Kong.”. Replace “31 March 2014” with “end March 2017” in the third paragraph.
	Page 44 yellow box	<ul style="list-style-type: none"> Replace the second paragraph by “e.g. A grade 1 room air conditioner is at 23% more energy efficient than a grade 3 product, while a grade 1 refrigerating appliance is 41% more energy efficient than a grade 3 product.”.
	Page 44	<ul style="list-style-type: none"> Replace “Refrigeration appliances” in second item under “MEELS covers five types of prescribed products” with “Refrigerating appliances”. Delete the last sentence “There is a grace period for the latter two types of products until 18 September 2011.”.
	Page 46 orange box	<ul style="list-style-type: none"> Replace “80%” with “75%”.
	Page 47 orange box	<ul style="list-style-type: none"> Add at the end “However, lighting quality such as glare and uniformity are key factors to be considered.”.
	Page 47	<ul style="list-style-type: none"> Replace second sentence of item (d) with “The luminous efficacy of LED lighting is comparable to the T5 fluorescent tubes.”.

Energy Efficiency	Page 48 orange box	<ul style="list-style-type: none"> Replace with “District cooling system (DCS) is a centralized cooling system which provides chilled water to the air-conditioning systems of multiple user buildings for cooling purpose. DCS is an energy efficient system as it consumes 35% less electricity as compared with conventional air-conditioning systems. The HKSAR Government is constructing a first-of-its-kind DCS at the Kai Tak Development for centralized air-conditioning.”.
	Page 50 blue box	<ul style="list-style-type: none"> Replace with “Prevention of Legionnaires’ Disease – Regulatory Control of Fresh Water Cooling Towers Fresh water cooling towers (FWCTs) could be sources of spreading Legionnella if the FWCTs are not properly designed, installed, operated and maintained. To address the concern of the risk of causing Legionnaires’ Disease, the EMSD has published Code of Practice for Water-cooled Air Conditioning Systems to provide guidelines for owners and relevant stakeholders’ reference. A Code of Practice for Prevention of Legionnaires’ Disease issued by Prevention of Legionnaires’ Disease Committee, Hong Kong is also available to serve similar purpose. The EMSD takes about 800 water samples from FWCTs for testing each year. If the water quality of FWCTs cannot satisfy the relevant standard, the EMSD will regulate improperly maintained or contaminated FWCTs under the Public Health and Municipal Services Ordinance, Cap 132.”
	Page 51	<ul style="list-style-type: none"> Delete the first paragraph “Switchable glazing technology... is still preserved.”.
Renewable Energy	Page 6	<ul style="list-style-type: none"> Add to the end of first paragraph “The circular was updated and subsumed in a new circular on “Green Government Building” issued in April 2015.”.
	Page 17 blue box	<ul style="list-style-type: none"> Replace with “World’s Giant Solar Plant The world’s largest solar power system is the Solar Star Projects located in California with capacity of 579MW. Currently, the world's top 5 latest solar power plants are in China, India and United States, they are: <ol style="list-style-type: none"> 1. Solar Star Projects, 575MW, USA; 2. Desert Sunlight Solar Farm, 550MW, USA; 3. Topaz Solar Farm, 550MW, USA; 4. Longyangxia Hydro-solar PV Station, 480MW, China; and 5. Charanka Park PV Power Plant, 345 MW, India. (Sources: www.sunenergysite.eu)”

Renewable Energy	Page 20 blue box	<ul style="list-style-type: none"> Replace with “Hong Kong’s Largest Solar Power System In 2010, Hongkong Electric Company Limited (HEC) commissioned a commercial-scale thin-film photovoltaic system with generating capacity of 550 kW in Hong Kong at its Lamma Power Station. With outstanding performance, HEC decided in 2011 to expand the system capacity to 1MW. The expansion was completed in 2013. The solar power system comprises 8,662 thin-film photovoltaic (PV) modules with a total generating capacity of 1MW and is expected to generate 1.1 million units of green electricity annually. The use of solar energy cuts 915 tonnes of CO₂ emission every year.”.
	Page 22	<ul style="list-style-type: none"> Replace the “30%” with “15%” in the first paragraph.
	Page 24 yellow box	<ul style="list-style-type: none"> Replace with “China is the global leader in terms of installed wind power capacity. The wind power capacity has reached 115 GW in 2014.”.
	Page 27	<ul style="list-style-type: none"> Delete the two yellow boxes.
	Page 29 green box	<ul style="list-style-type: none"> Replace with “The International Energy Association defines hydroelectric station as: <ul style="list-style-type: none"> - Large-hydro: 100MW or more of capacity feeding into a large electricity grid; - Medium-hydro: From 20MW to 100MW almost always feeding a grid; - Small-hydro: From 1MW to 20MW usually feeding into a grid; - Mini-hydro: From 100kW to 1MW that can be either stand-alone, mini-grid or grid-connected; - Micro-hydro: From 5kW to 100kW that provide power for a small community or rural industry in remote areas away from the grid; and - Pico-hydro: From a few hundred watts up to 5kW (often used in remote areas away from the grid”.
	Page 31 orange box	<ul style="list-style-type: none"> Replace “The facility will come into full operation in 2011.” with “The facility came into full operation in 2012.”.
	Page 41	<ul style="list-style-type: none"> Replace the last sentence of the first paragraph with “According to the Policy Framework of Hong Kong Blueprint for Sustainable Use of Resources 2013-2022 by Environmental Bureau, a sizable integrated waste management facility with enhanced capacity will be needed to turn waste to energy and to deal with MSW that has not been taken out of the waste stream.”. Replace the first orange box with “In Hong Kong, approximately 9,000 tonnes of MSW is being thrown away at landfills everyday. The Government has plan the best use of its waste-management facilities to turn waste into renewable energy. With regard to the various waste-to-energy facilities completed or being planned, including sludge treatment facility, integrated waste management facility, and a number of organic waste treatment facilities, the renewable energy generated is estimated to be able to meeting about 1% of Hong Kong's total electricity demand by early 2020s.”.

Renewable Energy	Page 42 second blue box	<ul style="list-style-type: none"> Replace with “What Can We Do at School to Minimize Food Waste?” The Environmental Bureau and Education Bureau jointly launched the Green Lunch Charter in February 2010 to encourage schools to reduce food waste and the use of disposable lunch boxes. The Environmental and Conservation Fund (ECF) has also reserved \$150 million to support existing schools to retrofit facilities in order to portion meals on site, while new school premises will be designed to enable on-site meal portioning as a standard feature.”.
	Page 42	<ul style="list-style-type: none"> Replace the last sentence in first paragraph with “The facility is scheduled for completion in 2016/17.”.
Energy Efficient Building	Page 10 Blue Box	<ul style="list-style-type: none"> Replace the website address of BEAM Society with “http://www.beamsociety.org.hk”.
	Page 14 Orange Box	<ul style="list-style-type: none"> Replace first line with “Under the Buildings Energy Efficiency Ordinance:”.
	Page 17 Orange Box	<ul style="list-style-type: none"> Replace “30 W/m²” with “24 W/m²”, and “70 W/m²” with “56 W/m²”.
	Page 34 blue box	<ul style="list-style-type: none"> Replace “plans to implement a DCS” with “is constructing a DCS” in the first sentence of the first paragraph. Replace “The maximum annual saving...” with “Upon completion, the maximum annual saving ...” in the third sentence of the first paragraph. Delete “a maximum annual saving of \$76.5 million in electricity, and” in the last sentence of the first paragraph. Replace second paragraph with “The project cost for such DCS is estimated to be about \$4,945.5 million. The project would be implemented in 3 phases. The first and second phase construction works were completed in 2013 and 2014 respectively. The operation of the DCS commenced in 2013 for the provision of district cooling services to the Kai Tak Cruise Terminal, Ching Long Shopping Centre in the public rental housing, the Trade and Industry Tower and two schools. The remaining works would be implemented according to the development schedule of the Kai Tak Development.”.