Errata

Page 2, page 18 Apologies to Jonathon Porritt for misspelling his first name.

Page 30–31 note 29. In the sentence, 'If I said "the average use of energy for car driving in the UK is 24 kWh/d per person," I bet some people would misunderstand and say: "I'm a car driver so I guess I use 24 kWh/d."', replace both "24"s by "13". (Explanation: 24 kWh/d/p was the average use of energy for *all* road transport. Of that, 13 kWh/d/p goes into cars and motorcycles.)

Page 43 Figure 6.11 *corn to ethanol* "0.02 W/m^2" should be "0.048 W/m^2". (See *Page 284* erratum.)

Page 47 Add closing parenthesis: "band-gap is lost." should read "band-gap is lost.)"

Page 55 Map: Kinlochewe should be located about 60 km further north.

Page 56 (note 56, line 8) "has a per" should read "has a power per".

Page 62 line 14 from the bottom, "0.14 million tons" should read "140 million tons".

Page 63 "Denmark, where windmills generate **9%** of the electricity." should read "Denmark, where windmills generate **19%** of the electricity." (Danish wind production in 2008 was 3.4 kWh/d/p; total gross electricity production was 18 kWh/d/p.)

Page 75 Last line, "5%" should read "10%".

Page 85 In the map of Northern Ireland the place-name "Downpatrick" is missing its first letter.

Page 120 **trolleybuses**... "270 kWh per vehicle-km" should read "270 kWh per 100 vehicle-km"

Page 131 The two sentences "... hydrogen gradually leaks out of any practical container. If you park your hydrogen car ... most of the hydrogen has gone." are incorrect and should be replaced by: "hydrogen gradually boils off from cryogenic tanks to keep them cold. If you park a cryogenic hydrogen car at the railway station with a full tank and come back two or three weeks later, you should expect to find most of the hydrogen has gone."

Page 133 "Rijnsdam" should read "Rijndam".

Page 153 "Scandanavia" should read "Scandinavia".

Page 167 After discussing the cost of cleaning up nuclear sites, add: "Moreover, most of this nuclear clean-up cost is associated with weapons-making facilities, not civilian power stations."

Page 169–170 "after 1000 years, the radioactivity of the high-level waste is about the same as that of uranium ore." should read "if we *reprocess* the waste, separating off the uranium and plutonium for reuse in new nuclear fuel, then after 1000 years, the radioactivity of the high-level waste is about the same as that of uranium ore."

Page 181 Figure 25.8, caption: "one-third-filled" should read "one-half-filled".

Page 192 Table 26.7, columns 2 and 3. All volumes (40, 40, 100...) and depths (20, 10, 20...) should be doubled (to 80, 80, 200... and 40, 20, 40... respectively).

Page 199 Figure 26.13, last sentence of caption: "reduced" should read "reduced from".

Page 204 Figure 27.1. The red box marked Transport **20 kWh/d** and the adjacent blue box marked Electricity **18 kWh/d** were both accidentally drawn 10% too tall.

Page 205 paragraph 2, last line: "2 kWh/d/p of solar hot water" should read "1 kWh/d/p of solar hot water".

Page 206 Figure 27.2: "Teeside" should be spelt "Teesside".

Page 207 last paragraph, 4th line: Waste inc'n: "1.3 kWh/d/p" should read "1.1 kWh/d/p".

Page 217 "the cost of decommissioning the UK's nuclear power stations" – add – "and nuclear-weapon factories".

Page 232 "Scandanavia" should read "Scandinavia".

Page 234 "250 kWh/d per day" should read "250 kWh per day".

Page 238 paragraph 2: *Brazilian sugarcane*. See erratum for *Page 284*, below.

Page 241   Figure 31.2's discussion of the amount of carbon in the atmosphere should have clarified that the amount shown (600 Gt) is the *pre-industrial* amount. Since 1850, the amount of carbon in the atmosphere has increased to roughly 800 Gt.

Page 246   "To pulverized" $\longrightarrow$ "To pulverize".

Page 260   The numeric value of the speed at which a car's rolling resistance is equal to air resistance is incorrect. "7 m/s = 16 miles per hour" should be replaced by "13 m/s = 29 miles per hour".

Page 263   Figure B.1: force 7, replace "31 km/h" by "58 km/h".

Page 281   paragraph 1, line 2: "depends only" should read "depends only on".

Page 284   *Bioethanol from sugar cane*

"17 600 l of ethanol" ... "1.2 W/m^2" should read "6500 l of ethanol" ... "0.5 W/m^2". In fact, according to Andrew Ferguson, the power density of ethanol produced from sugarcane in Brazil is about 0.29 W/m^2. *The power density of ethanol from Brazilian sugar cane*, Andrew Ferguson, OPT Journal, October 2007 [nqc83h] .

Bioethanol from corn in the USA: "0.02 W/m^2" should read "0.2 W/m^2".

To make this section more informative I would discuss processing costs too, as follows:

1 acre produces 122 bushels of corn per year, which makes 122 $\times$ 2.6 US gallons of ethanol, which at 84 000 BTU per gallon would mean a power per unit area of 0.2 W/m^2; however, the energy *inputs* required to process the corn into ethanol amount to 83 000 BTU per gallon; so 99% of the energy produced is used up by the processing, and the *net* power per unit area is about 0.002 W/m^2. The only way to get significant net power from the corn-to-ethanol process is to ensure that all co-products are exploited; including the energy in the co-products, the net power per unit area is about 0.05 W/m^2.

Page 285   End of paragraph 1: "230 square metres ... roughly 6% ..." should read "100 square metres ... roughly 3% ...".

Page 286   paragraph 2, line 4: "If 2800 m^2 of Britain..." should read "If 2800 m^2 per person of Britain..."

Page 298, 299   The top line of page 298 gives 6.6 W/m^2 as the total power per unit area of the Heatkeeper house. This is incorrect. 6.6 W/m^2 is the heating power only. The total power per unit area is 12.2 W/m^2. This error is repeated in figure E.12 (p299). (The equivalent breakdown of power consumption in my house, "after" the austerity measures were introduced, is 6.2 W/m^2 of gas and 7.1 W/m^2 total.)

Page 299   Another niggle with figure E.12 is that the PassivHaus standards define power consumption differently, in terms of "primary energy consumption," which requires knowledge of the primary sources of electricity and fuel, and of conversion efficiencies. So the PassivHaus standards are actually more stringent than the figure shows; exactly how much more stringent depends on the fuel mix.

Page 300   Figure E.13: "T_{ext}" should read "T_{out}", for consistency with the caption.

Page 316   Add the equation number (G.10) to the equation on this page.

Page 324   line 22: "(10 kWh/d per person)" should read "(10 kWh per kg)".

Page 328   line 6: "Système Internationale" should read "Système International".

Page 353   SCHLAICH, J.: Correct bibliography entries:

SCHLAICH J., BERGERMANN R., SCHIEL W., and WEINREBE G. (2005).   Design of Commercial Solar Updraft Tower Systems – Utilization of Solar Induced Convective Flows for Power Generation. *Journal of Solar Energy Engineering* **127** (1): 117-124. doi:10.1115/1.1823493.

SCHLAICH J. and SCHIEL W. (2001).   Solar Chimneys. In R.A. Meyers (ed), Encyclopedia of Physical Science and Technology, 3rd Edition, Academic Press, London. ISBN 0-12-227410-5.