

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/m²” should be “0.048 W/m²”.
(See erratum for page 284, below, for details.)
- Page 47* add closing parenthesis: “band-gap is lost.” should read “band-gap is lost.)”
- Page 55* Map showing Kinlochewe and Bedford: 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 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 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 the rocks” should read “To pulverize the rocks”.

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 6001 of ethanol” ... “1.2 W/m²” should read “65001 of ethanol” ... “0.5 W/m²”. In fact, according to Andrew Ferguson, the power density of ethanol produced from sugarcane in Brazil is about 0.29 W/m². *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/m²” should read “0.2 W/m²”.

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 × 2.6 US gallons of ethanol, which at 84 000 BTU per gallon would mean a power per unit area of 0.2 W/m²; 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/m². 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/m².

Page 286 Paragraph 2, line 4: “If 2800 m² of Britain (that’s all agricultural land)...” should read “If 2800 m² per person of Britain (that’s all agricultural land)...”

Page 298, 299 The top line of page 298 gives 6.6 W/m² as the total power per unit area of the Heat-keeper house. This is incorrect. 6.6 W/m² is the

heating power only. The total power per unit area is 12.2 W/m². 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/m² of gas and 7.1 W/m² total.)

Page 299 Another niggles with figure E.12 is that the PassivHaus standards use a different convention for defining power: they define power in terms of “primary energy consumption,” which requires knowledge of the primary sources of electricity and fuel, and of conversion efficiencies. This means that 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 are:

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.

Thanks to: François-Marie Lefevre, Tim Stone, Martin Zeidler, Vince O’Farrell, Dankrad Feist, Seb Wills, Richard Weightman, Michael Worstall, Jim Smith, Jeanne Warren, Iztok Tiselj, Alwyn Eades, Rajesh Panjwani, Erik Gaal, Craig Embleton, Bruce Heagerty, and Tim Paine.