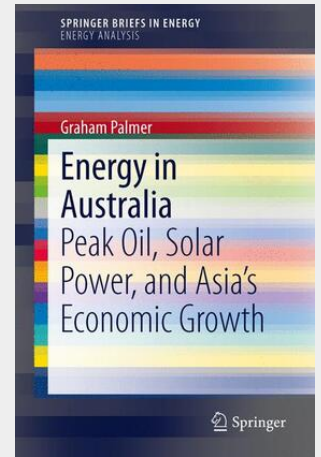


Palmer

Energy in Australia

Peak Oil, Solar Power, and Asia's Economic Growth

With rapidly declining costs and seemingly unlimited sunshine, the choice of solar in Australia seems obvious. Yet despite its many advantages, homes with solar remain completely dependent on the electricity grid for reliable supply, which in Australia implies mostly coal-fired generation. Indeed, even countries that have invested heavily in solar, such as Spain and Germany, have been unable to deflect the trajectory of fossil fuel dependence. The reasons for this apparent paradox are varied, and this book provides a deeper and more nuanced understanding of the practical applications of photovoltaics (PV) in modern electricity systems. While the conventional life-cycle assessment (LCA) boundaries as prescribed by the IEA-PVPS provide a consistent methodology for comparing evolving PV technologies, the narrow boundaries exclude many critical downstream energy costs. Similarly, simple cost comparisons of PV versus conventional power sources overlook the significant economic and energy costs of intermittency and grid integration. Yet distributed storage, which could provide potentially valuable network support, is frequently given a low priority by advocates of solar. Treating PV as an extension of, rather than as a substitute for, the fossil fuel enterprise enables a more productive discussion of PV's potential role in electricity generation. The sunburnt country of Australia, which has a modern electricity system, is an ideal case study for exploring the potential of solar PV. With a focus on rooftop solar, energy storage, grid integration, and electricity system issues, Energy in Australia offers valuable insights into the practical challenges of solar power. Although many national economies are already confronting a downward trend in energy return on investment (EROI) of oil and gas from both conventional and unconventional sources, the large-scale deployment of low-emission energy sources that lie below a critical minimum EROI threshold may ultimately prove counter-productive.



53,49 €

49,99 € (zzgl. MwSt.)

Lieferfrist: bis zu 10 Tage

Artikelnummer: 9783319029399

Medium: Buch

ISBN: 978-3-319-02939-9

Verlag: Springer International Publishing

Erscheinungstermin: 22.11.2013

Sprache(n): Englisch

Auflage: 2014

Serie: SpringerBriefs in Energy

Produktform: Kartoniert

Gewicht: 1766 g

Seiten: 91

Format (B x H): 155 x 235 mm

