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Lovins, RMI and small, profitable electricity
By Walt Patterson

From the outset of his career, at the beginning of the 1970s, the American energy visionary Amory Lovins tended to polarize people into two diametrically opposed camps. Reading him or listening to him, one camp usually said 'Of course! Of course! It's obvious! Why didn't I think of that?' The other camp said 'There goes that Lovins again, with his crackpot ideas, trying to undermine the fabric of right-thinking society...' In the 1970s those in the second camp far outnumbered those in the first. Attacks on Lovins were ferocious and relentless. In the intervening decades, however, the balance has steadily shifted. By 2000 *Time* magazine was hailing Lovins and his then partner L. Hunter Lovins as 'Heroes for the Planet'.

Over the years the Rocky Mountain Institute, which they founded in 1982, has turned its radical eye on many aspects of society, from cars to water to climate. But energy has always been a recurring, underlying theme, and within energy electricity in particular. For that as well as other reasons Lovins enthusiasts have been waiting eagerly for the latest RMI report from the electricity front. After a gestation period of more than five years it has at last appeared. It amply justifies the wait.

Reading *Small Is Profitable: The Hidden Economic Benefits of Making Electrical Resources the Right Size*, a lot of us will be exclaiming 'Of course! Of course! It's obvious!' Many, no doubt, will still be grumbling 'There he goes again...' But their voices are growing weaker and less telling by the day, as the analysis and argument set forth here by Lovins and his co-authors grows steadily more unanswerable.

Small Is Profitable is dedicated to Fritz Schumacher, author of its potently influential intellectual forebear *Small Is Beautiful*. The thesis of the RMI study will long since be familiar to readers of this column. As the title of the study suggests, the 'right size' for a very large proportion of 'electrical resources' - constituents of electricity systems, notably but by no means exclusively generation - is almost certainly a great deal smaller than tradition believes. The report identifies and enumerates precisely 207 benefits of what it calls 'distributed resources'. The numbered list covers the four endpapers of the volume, and would make a nifty wall-poster and memory-jogger for electricity people if RMI marketed it in a larger font. The precision of 207 may be a whit spurious, but the benefits enumerated are genuine, often substantial and in many instances hitherto unacknowledged. Certainly they have never before been so comprehensively and coherently presented to policymakers.

A three-page executive summary gives a concise if tantalizing taste of what is to come, and a preface thanks more than a page of colleagues. Part One on 'Needs and Resources' sets out the historical and current context of electricity, especially but not only in the US,

its traditional assumptions, cumulative problems and traumatically uncertain present. Here and throughout, footnotes and boxes give concise and valuable discourses and tutorials on key concepts in electricity engineering, finance, planning, regulation and other specialties, a complete primer on electricity as it is now manifest in society. The heart of the book, however, is Part Two, 'Benefits of Distributed Resources', 200 pages itemizing the said benefits with explanations, elaborations and interconnections - a *tour de force* without parallel in the literature of electricity. No brief comment can do it justice; indeed it must be read and reread repeatedly to get anything like a full grasp of the information and analysis presented. That is no reflection on the writing, which is lucid and direct throughout, and sometimes dramatically vivid: for instance, in traditional gigawatt-scale electricity 'we are sipping power from a firehose and spilling a lot in the process'.

Part Three of the study is 'A Call To Action: Policy Recommendations and Market Implications for Distributed Generation'. It dissects the entire process of electricity planning, finance, regulation and business, from a US perspective but with considerable relevance also elsewhere; and it lays out a programme of policy changes to capture the benefits described earlier. The case it makes is well-nigh unanswerable. No present or prospective player in the electricity game can afford to ignore it. Indeed the RMI authors lament that their work has been complicated by the veil of commercial secrecy that major participants are now drawing over their involvement in these developments, demonstrating how seriously they now view them.

Small Is Profitable must be the definitive commentary on the first phase of transition away from traditional electricity, not only in the US but around the world. If it receives the close attention it deserves, it will accelerate and ease this phase, and hasten the arrival of the next phase, as the transition gradually changes the role and nature of electricity in society. One corollary of the detailed and sometimes intensely technical commentary here presented is to underline yet again that electricity is different - not a commodity, not a fuel, but a complex physical phenomenon happening throughout an interconnected system. As its title indicates, *Small Is Profitable* is written quite specifically for those in today's electricity business, which still treats electricity as a quasi-commodity, priced, bought and sold by the unit. Over time, however, capturing the distributed benefits the study describes will change the shape of electricity systems. It will foster the emergence of small-scale local systems, integrated and optimized to deliver services, not as commodities but as infrastructure services. It will also encourage the move away from fuel-based electricity to infrastructure electricity such as microhydro, wind and photovoltaics, likely to be profoundly important for the third of the world without traditional legacy systems.

As the electric transition gathers momentum, look to Amory Lovins and RMI to stay in the vanguard.

Small Is Profitable, by Amory B. Lovins et al., Rocky Mountain Institute 2002 (telephone +1 970 927 3851); distributed in the UK by Earthscan (tel. +44 20 7278 0433).