

SYNOPSIS

Slow Money for Soft Energy: Lessons for Energy Finance from the Slow Money Movement

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INTRODUCTION

Energy infrastructure is decarbonizing, shifting from dirty coal to cleaner gas- and emissions-free renewables. This is an important and necessary change that unfortunately risks preserving many problematic technical and institutional properties of the old energy system: in particular, the large scales, high aggregation, and excessive centralization of renewable energy infrastructure and, importantly, its financing.

Large-scale renewables carry environmental, social and political risks that cannot be ignored, and more importantly they may not *alone* accomplish the necessary decarbonization of the power sector. We need to revive a different approach to clean energy infrastructure: a “softer” (Lovins 1978), more distributed, decentralized, local-scale strategy. To achieve this, we need a fundamentally different approach to the *financing* of clean energy infrastructure. I propose we learn from the “Slow Money” approach being pioneered in sustainable agriculture (Tasch 2010), emphasizing a better connection to place, smaller scales, and a focus on quality over quantity. This “slow money, soft energy” vision is not a repudiation of big-scale renewables, since there are some societal needs, which can only be met by big, centralized power. But we do not need the level of concentration in control and finance epitomized by the current trends in the global renewables sector: this can and must change.

BIG IS BIG...

The global renewable energy sector is scaling up physically. Recent wind projects, for example, have been in the hundreds of MW, driven by corporations with significant market capitalization and revenues. Project financing matches the physical scale of these installations. Investment in the global renewables sector has grown from \$52 thousand millions in 2004 (Wüstenhagen 2011) to \$187 thousand millions in 2010. This is only \$32 thousand millions less than investments in fossil-fuel generation assets in 2011 (UNEP 2011). Not only are these deals large, but they are also complex and private (Biorl 2003) involving increasingly mainstream investors (UNEP 2011). This model of energy investment shows little sign of losing attractiveness (BNEF 2011).

...BUT NOT NECESSARILY BETTER

Unfortunately, the enthusiasm for the international energy investment community in large-scale renewables projects has largely bypassed concerns about whether or not the scale (and concentration) of such projects is appropriate. Environmental costs vary by technology, e.g., nutrient balance, soil erosion, and water resource depletion for biomass (Abbasi and Abbasi 2010) versus habitat damage and groundwater extraction for solar parks (Allen and McHughen 2011), but there are also important institutional costs. A small number of powerful players currently dominate renewable energy, including vertically integrated utilities and multinational engineering and service firms. This extreme concentration of control risks regulatory

capture; monopoly rent-seeking; privatization of benefit and the socialization of risk; and reduced R&D progress within the sector (Jamassb and Pollitt 2010). The financing of these actors marshal is also problematic: the large investments required for large wind farms and solar parks means dealing with a world of international finance characterized by intensively speculative strategies; short-termism in rates of return and investment periods; a constant drive to off-load risk (Cooper 2012); and discounting the social risks in individual investment decisions (Erkens and Hung 2012). Regardless of environmental or institutional costs, large-scale renewables may not necessarily be the best choice for decarbonization. Their size, financing strategies, and heavy dependence on tax equity and cash grants makes them often vulnerable to shifts in global interest rates and fickle local and national politics (Sharif 2011). They may have trouble finding, securing, and delivering on suitable sites at reasonable cost, and often require expensive transmission build-out. Most importantly, large-scale concentrated development can lead to dominance of a given region's power supply, decreasing resilience.

These arguments present us with a conundrum: faced with the challenge of decarbonization and the resulting temptation to deploy lower or no emissions technologies on as big a scale as possible, we also need to recognize the serious risks in doing so. What alternatives exist?

A “SOFTER” ALTERNATIVE FOR RENEWABLE ENERGY

Lovins (1978) proposed “hard” and “soft” paths for energy. “Hard” paths are characterized by centralization, fossil-fuel dependency, economies of scale, and an assumption that demand is an inexorably growing force. “Soft” paths involve greater efficiency, use of diverse renewable sources deployed at appropriate scale, minimized environmental impacts, resilience, and demand flexibility. The costs enumerated above provide ample evidence that the trajectory of modern renewable energy—the apparent alternative of choice to the “hard” technological path—is far from “soft”.

Clues to a truly “soft” system lie in Lovins' definition: diversity; efficiency; appropriate scale; minimal social and environmental impact; resilience; and flexibility, among others. A truly *distributed clean energy* system, embracing smaller scale cleaner-burning and renewable technologies as well as geographic and managerial decentralization, is far closer to this definition than the mainstream renewables sector. Benefits to such a system are clear: reduced social and environmental impact; increased efficiencies; more appropriate scale; greater grid resilience; more flexible demand; more reliable local supply; more optimal use of

scarce grid capacity; and far greater affordability (Akorede and Hizam 2010).

Less clear is how this “softer” energy path can be financed. Existing energy-investing institutions show little interest: while \$60 thousand millions were invested in distributed energy projects in 2010, or \$1 in every \$4 invested in the clean energy sector (WEF 2011), this belies heavy dependence on government subsidy: 40 % of the increase in distributed solar in 2010, for example, was in the German market (WEF 2011). Big finance is, indeed, poorly adapted to the unique needs of distributed energy (Sonntag-O'Brien and Usher 2004). Assuming we want a “softer” energy system, what kind of financing *do* we need?

SLOW MONEY FOR SOFT ENERGY

Sustainable agriculture, which has long been aware of and grappling with the negative impacts of scale, provides some inspiration in the form of “Slow Money”, a term coined by investor Woody Tasch. Slow money focuses on “socially responsible and sustainable investing directly in individual small food enterprises near where we live” (SMA 2011). Its essential principles—slow; socially responsible; sustainable; direct; individual; local; and diverse—have tantalizing potential for energy.

Slow

“Money that is too fast is money that has become so detached from people, place, and the activities that it is financing that not even the experts understand it fully” (Tasch 2010, p. 19). Global energy investment moves too fast: it is not focused on long-term needs, nor rooted to particular places, nor focused on preserving social and natural capital while delivering energy needs.

Socially Responsible

This means humane, equitable investment focused on multiplier effects. *Humane*, because it minimizes the offshoring of resource extraction and waste handling, and because it operates at a recognizable human scale. *Equitable*, because it strives for transparent costs and broad benefits. *Focused on multipliers*, because every financial intervention in the energy system is an opportunity to generate multiple forms of social good.

Sustainable

Focusing on low or no-carbon energy production as well as minimizing or eliminating lifecycle pollutants.

Direct

Thinning out the intermediaries—layers of investment professionals and institutions—by localizing fund sources within communities and regions and away from global financial centers.

Individual

Rather than being restricted to a professional and/or wealthy “investor class” which is small, globally consolidated and generally set in its ways, individualized investment involves a broader cross-section of society.

Local

Properly localized energy brings the control and supply of energy far closer to the point of consumption. Local finance is rooted in social and geographic locales: not only in sourcing and distribution but also in scale.

Diverse

Diverse investment supports diverse energy infrastructures and distributed ownership and control among a range of actors at all levels of the system.

CONCRETIZING THE VISION

What would a Slow Money/Soft Energy (SM/SE) economy look like? We will need new investor roles; new intermediaries with novel strategic and operational principles; and new investment targets.

New Roles

Investment is practically re-oriented toward the individual investor, focusing on (individually) smaller projects.

New Intermediaries

“Thinner,” i.e., with fewer institutional layers of professionalized expertise divorced from geographic and social context. These could include crowdfunding; community cooperatives; social enterprises; non-profit advocacy; campaign organizations; indices and clearing houses; and even new localized stock exchanges (Tasch 2010, p. 138).

New Rules

More concern for the full costs and benefits of investments, and a focus on improving quality over quantity. New

investment vehicles and regulatory boundaries could include more conservative accounting rules and longer reporting periods; regulatory protections and supports for small-scale investors; better requirements on portfolio diversity; limits on maximum rates of return and new minimum return periods.

New Targets

At a minimum, distributed energy-centered technology and service providers; community and regional cooperatives; and community and regional infrastructure banks, among others. If sources are willing, intermediaries are available, and a sound set of new investment principles are in place, we could see an explosion in investment diversity.

CONCLUSIONS

Energy infrastructure is decarbonizing: renewables installations are supplementing and supplanting fossil-fuel infrastructure the world over, funded by a huge shift in energy investment. This change is welcome but the nature of the transition is flawed: we remain too close to an undesirable “hard” technological path.

Fortunately, this creeping gigantism in renewables is not our only alternative. We need a “softer” system encompassing diversity, efficiency, appropriate scale, minimal social and environmental impact, resilience, and flexibility. Increased deployment of distributed clean energy may help us get there, but this requires a very different set of financial supports. “Slow Money,” a new movement in sustainable agriculture, provides some useful insights for this transition. Slow Money principles argue that finance should be slower; socially responsible; environmentally sustainable; direct; individualized; local; and diverse.

These principles will require changes to the nature of the institutions that go to make up our financial system. New roles and intermediaries will be needed along with a new rulebook for finance, but most importantly we will need new targets for investment: individuals, cooperatives, and private enterprises that embody the technological and institutional principles of distributed clean energy and a “soft” energy path.

There are clear barriers to be overcome, but a good first step is simply to recognize the need for not just a decarbonization and decentralization of our energy supply but an accompanying shift in the way we finance our energy infrastructure and its management.

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REFERENCES

- Abbasi, T., and S. Abbasi. 2010. Biomass energy and the environmental impacts associated with its production and utilization. *Renewable & Sustainable Energy Reviews* 14: 919–937.
- Akorede, M., and H. Hizam. 2010. Distributed energy resources and benefits to the environment. *Renewable & Sustainable Energy Reviews* 14: 724–734.
- Allen, M., and A. McHughen. 2011. *Solar power in the desert: Are the current large-scale solar developments really improving California's environment? Gaps in desert research*. Riverside, CA: UC Riverside.
- Birol, F. 2003. *World energy investment outlook*. Paris: International Energy Agency (IEA).
- BNEF (Bloomberg New Energy Finance). 2011. *Global renewable energy market outlook*. New York: Bloomberg New Energy Finance.
- Cooper, M. 2012. *Nuclear socialism comes to the heartland of America: Early cost recovery for new nuclear reactors in Iowa and the return of electricity rate shock*. South Royalton, VT: Institute for Energy and the Environment, Vermont Law School.
- Erkens, D., and M. Hung. 2012. Corporate governance in the 2007–2008 financial crisis: Evidence from financial institutions worldwide. *Journal of Corporate Finance* 18: 389–411.
- Jamasb, T., and M. Pollitt. 2010. Electricity sector liberalisation and innovation: An analysis of the UK's patenting activities. *Research Policy* 40: 309–324.
- Lovins, A.B. 1978. Soft energy technologies. *Annual Review of Energy* 3: 477–517.
- McCrone, A., Usher, E., Sonntag-O'Brien, V., Moslener, U., Andreas, J. G., and C. Gruning. 2011. *Global trends in renewable energy investment 2011*. Nairobi: United Nations Environment Programme (UNEP). <http://fs-unep-centre.org/publications/global-trends-renewable-energy-investment-2011>. Accessed June 2012.
- Sharif, D. 2011. *The return—and returns—of tax equity for US renewable projects*. New York: Bloomberg New Energy Finance.
- SMA (Slow Money Alliance). 2011. *Financial tools for slow money investors*. <http://www.slowmoney.org/invest>. Accessed 8 Dec 2011.
- Sonntag-O'Brien, V., and E. Usher. 2004. *Mobilising finance for renewable energies: Thematic background paper*. Secretariat of the International Conference for Renewable Energies, ed., International conference for renewable energies, Bonn. <http://www.renewables-bonn-2004.de/pdf/tbp/TBP05-financing.pdf>. Accessed June 2012.
- Tasch, W. 2010. *Inquiries into the nature of slow money: Investing as if food, farms, and fertility mattered*. New York: Chelsea Green Publishing.
- WEF (World Economic Forum). 2011. *Green investing 2011*. New York: World Economic Forum. <http://www.weforum.org/reports/green-investing-2011>. Accessed June 2012.
- Wüstenhagen, R. 2011. Strategic choices for renewable energy investment: Conceptual framework and opportunities for further research. *Energy Policy* 40: 1–10.

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