

## **Thin Edge of the Wedge**

*A Snapshot of the 2<sup>nd</sup> SEFI Roundtable, New York City, October 27, 2005*

From the opening keynote by Princeton University's Robert Socolow it was clear the 2<sup>nd</sup> SEFI Roundtable would explore the nooks and crannies of its sub theme: creating the climate *for* change. With his triangular "stabilization wedge", Prof. Socolow helped the 175 representatives from the finance, business and government sectors visualize in a simple way the difference in emissions between the currently predicted 'business as usual' path and a flat stabilization path that requires reductions of nearly 200 billion tons of carbon over the next 50 years.

By then dividing the "stabilization triangle" into seven "wedges" of equal area, Prof Socolow showed how "the heroic challenge" of stabilizing carbon emissions can be seen as "a limited set of monumental tasks" using a portfolio of technologies that exists *today*. He cautioned that no single wedge could do the entire job, but that a portfolio is essential.

In the next session three companies from the 2005 SEFI Selection – an exemplary group of innovative companies that have engaged the capital markets - explained how they have become the "thin edge of the wedge" to pry open opportunities in the clean energy sector. World Energy's CEO, Gene Gebolys, said the current 100% annual growth in the biodiesel market shows that sustainable energy "is more than concepts, these are businesses". His own wedge has become the largest supplier of biodiesel in the US through a focus on market development and partnerships with major end users such as the US military.

Noting that geothermal energy currently produces the same amount of power as the wind sector, Ormat CEO, Lucien Broninki, explained how his company has created 800 MW of power projects in 25 countries and raised US\$1 billion in project finance. In the last two years alone, Ormat has grown revenues from \$48 million to \$279 million.

Thomas Casten, CEO of Primary Energy, said his company has used "nearly all technology and fuels" to grow annual revenues to \$250 million and a profit before tax of \$84 million. By "recycling energy" through 785 MW of projects, Primary Energy is also saving its customers \$150 per year "with no capital invested". Such results, he said, are truly just the thin edge of the efficiency wedge if the world can break the lock of "an obsolete central generation paradigm" that cannot recycle energy.

Such examples of scale-up were met in the next sessions with the more tangled web of sustainable energy finance where, for example, moderator Ariane van Buren from CERES/INCR was told "not a single pension fund has [done anything] more than a reporting of carbon emissions". SRI managers are good at the retail level, but not at the institutional level. There is still a large rhetoric gap and as one audience member noted, "when you mix money and mission you don't do either well."

In the public finance and developing country sessions, discussions focused on a range of public/private investment vehicles that have been catalyzing sector growth. Phil Larocco from E+Co spoke on how sector leaders have been scaling up and are now significantly expanding participation in the clean energy finance value chain.

In the plenary session, a five-member panel moderated by The Economist's Vijay Vaitheeswaran took a polite, but pointed stab at the general issues of creating the climate for change. Nicholas Parker of Cleantech noted that we do not yet have the necessary three "P's": Purchase orders, IPOs, and Partners. Worldwatch Institute's Christopher Flavin pointed out that governments are historically so heavily embedded in all energy markets that an active, well directed and fiscally sensible government intervention is needed to counter century-long subsidies of our current energy system.

Reid Detchon of the Energy Futures Coalition noted that the sustainable energy sector has been trying to compete with \$15-20 barrel oil prices while waiting for higher prices, which have now come to be. Ethanol from corn in the US, he said, competes without subsidy at \$50/barrel. Jack Cogen from Natsource said the signal of regional carbon markets is the "tipping point", although this would be unsustainable without the US.

When asked if an approach like the Apollo project was needed, the panel responded that the approach can't happen in a top-down way and without the right market conditions. Noting that the Apollo approach makes the challenge "sound so difficult", the panel discussed whether the needed actions are simply "what governments should do everyday." Throughout discussions about government actions, particularly policy, participants often emphasized the need for policies and actions that are "loud, long and legal".

There were also calls for global development bonds to unlock private capital for developing countries and questions of why international organizations are not driving the sustainable energy agenda more robustly, to which Anil Cabraal from the World Bank replied that \$750 million was currently being invested by the bank.

In his final keynote UNEP Executive Director, Klaus Toepfer, said that technologies "don't come like manna from heaven, but where the market invites them". As long as carbon dioxide can be emitted for free, he added, we will have problems getting technologies to reduce emissions. He was also convinced that economies not investing in this direction eventually "will pay a high price".

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