

On renewable energy and inevitable paradigm shift

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The advent of renewable energy is changing the world beyond merely making it cleaner, more efficient and sustainable. The new paradigm also threatens to change the way business is done in the energy sector, even in Hungary. Transparency, accountability and cooperation are part of the credo for the emerging sector of renewable energy, with comparison to the early days of the internet well-deserved. Shorter cycles of business development; new business relationships that combine the talents of for-profit, not-for-profit, academic and governmental spheres; and a new understanding of business opportunity as it relates to corporate responsibility each stand as hallmarks of success in the new sector.

“Clusters” is the new buzzword for strategic cooperation between entities that are making business in the renewables sphere possible. The public sector provides structural support for the clusters by helping to decide viable opportunities by providing subsidies and incentives as well as providing a framework for cooperation that designates a role for each player, be they energy start-up companies, NGOs, universities or incumbent energy providers.

Hyvolution, the cooperative initiative of 17 universities, NGOs and businesses in 13 countries aimed at the biological production of hydrogen – for use in such energy applications as fuel cells that was mentioned in last month’s “Energy Source” column – is one example of such a cluster. The Hyvolution cluster is rooted in the European Union’s sixth “framework program,” or “FP6.” The framework program is the central mechanism of the EU for funding R&D projects. The funding period for FP6 closed at the end of last year, succeeded now by FP7, which runs for seven years with a budget of over €70 billion. An emphasis on development of renewable energy, collaborative trans-boundary research and a significant industry-driven component have helped make Hyvolution a successful FP candidate. Hungary’s role, through the participation of the University of Szeged, is an example of how local brainpower factors into the renewables mix.

“For foreign investors seeking a climate of high risks and high returns, now is a good time for renewable energy investors to come to Hungary,” said Tibor Hejj, managing partner at **Proactive Management Consulting Kft** (PMC) and an active player in cluster activity. “Clusters create feedback loops wherein the local player cooperates with the foreign investor having the client interface and with partners in R&D,” said Hejj. “This way new links in the value chain are identified and fed into R&D priorities. If research is just research, then it may go nowhere. But if you are in a community of trusted partners, then the time to market is shortened, which is better for both investor and consumer and opens the door for new investment opportunities.” Hejj compared the current renewables sector to the burgeoning internet economy of a decade ago. Traditional telecommunications companies in those days were in the same position as today’s incumbent power companies are, he explained.

Conversely, internet companies have their counterparts in today's renewable energy firms. Then boss of Hungarian PC manufacturer **Műszertechnika**, Hejj was dubbed "the Steve Jobs of Hungary" by *Fortune* magazine in the early 1990s, and he went on to lead a host of energy projects with **E.ON Energy**, RWE, MVM and the Paks nuclear power plant. More recently, Hejj has parceled his efforts between innovative energy projects and not-for-profit ventures such as providing employment and leisure for the disabled. His writings include a published essay, "The Economy of Sharing." "With the internet we went from nicety to necessity," he said, indicating that the same will be the case with renewable energy and conservation. Hejj added that, in coming years, economies will adjust to the utilization of biofuels, solar and geothermal power. Moreover, what is now considered waste will come to be seen as a feedstock for material and energy production, a concept affirmed by David Butler, regional manager for Ireland's state development agency Enterprise Ireland. Butler delivered a fireside talk two weeks ago to the Irish Hungarian Business Circle (IHBC) where he brought up the commoditization of "end-of-life" components resulting from fuel-hungry incinerators. Hejj – himself vice president of IHBC – emphasized later that Butler's comment reveals an emerging "holistic view" of production and consumption: Yesterday's waste is viewed today as a different state of resource, in a manner similar to ice being understood as a different state of water.

The transformation currently underway amounts to what Hejj calls a "paradigm shift" in the way energy business is done. The dominant paradigm remains – by and large – to address consumer demand by exploiting conventional feedstocks such as fossil (or even fissile) fuels to produce both energy – to meet this demand – as well as such negative externalities as pollution, toxic waste and a depleted resource pool. The new holistic paradigm enables recognition of both social and private costs as well as benefits, along with new ways of thinking about resources, production and waste. Social costs such as pollution, climate change and the economic vulnerabilities posed by overdependence on fossil fuels are no longer discarded as inevitabilities associated with human progress. In the old paradigm, it still makes little or no business sense to pursue renewables; they're simply not cost-effective for individual firms. In the new paradigm, however, social costs are factored in with private costs to form a broader business model. According to Hejj, this enables new roles for government, academia and NGOs. NGOs can work as watchdogs to spot and define social costs; academia can lead research projects to develop more effective and efficient use of renewables and conservation of conventional feedstocks; and governments can set use requirements, institute frameworks, provide incentives and subsidies. This all opens up opportunities for companies ready to embrace open collaboration and new business models that redefine corporate social responsibility.

An example that comes to mind is Hungarian auto parts maker **Raba Nyrt.**, which earlier this decade transferred its energy assets to Hungarian energy services company EETEK Zrt. The result was a refitting of Raba's energy infrastructure that included cogeneration gas engines that produce electricity and heating in the same cycle, an improvement over old systems that generated them separately at greater cost to the environment. Subsidized pricing for co-generated electricity, along with an alert to the opportunities of the new paradigm, made this refit a viable business undertaking.

Awareness of these opportunities is clearly on the rise, as evidenced by an estimated €63 million invested this past year in Hungary in wind projects alone, most of which remain in planning and permitting phases. A similar story rings true for biofuel projects. Again, Hejj sees a comparison to the internet. "Competition started before real economic activity got

underway,” he said, drawing a parallel to the investments made in online banking in late-1990s Hungary, well before demand for such a service had even materialized. “Today we take online banking for granted. We rely on it. The same will be true for biofuels and other renewables.” Hejj explained that PMC and its partner organization **Central European Management Intelligence** have been examining the development of the biofuel market on behalf of clients. The results show that biofuel investments are still in the “waiting game,” delayed by an array of issues involving regulations, subsidies, labor and demand. Nonetheless, there is “huge capital interest” despite a physical shortage of actual projects; a similar story rings true for wind projects. A period of consolidation is starting to loom. “Projects involving renewables have different lifecycles than conventional energy projects,” he said. “The customary feasibility studies, pilots and eventual rollout are too time-consuming.”

Despite wind power’s integral contribution to the energy economies of Western Europe, incumbent energy providers in Hungary demonstrated little more than token interest, leaving the field to a group of smaller players, which Hejj divides into three groups. The first group, he said, consists of players eager to make a big noise over their involvement in wind power, but who were actually playing the waiting game themselves. E.ON Energy, Hungary’s largest energy distributor, once fit into this group with its financial support of the nation’s first grid-connected wind turbine, a 600-kilowatt station in the Danube village of Kulcs, less than one hour south of Budapest. Since then, E.ON has chosen the role of incumbent observer, waiting for wind power to take hold and the field to narrow. The second group consists of more demonstrably active players who, according to Hejj, “took risks and acquired licences, but neglected other factors such as land rights and building permits.” The third group – the one poised eventually to succeed – Hejj sees as falling somewhere between the first two; he cites Irish energy investor **SWS** is a typical example. SWS experienced its share of frustrations in developing wind parks in Hungary, but are determined to push forward.

EETEK CEO Lansing Gatrell identifies three keys to success for wind power projects in Hungary: an operating license from the national energy office (HEO); adequate financing; and a grid connection to the national grid supplied by electricity company MVM. The operating license, Gatrell explained, is what entitles the wind farmer to sell electricity at a subsidized price. Many players have a grid connection, but far fewer have both operating licenses and adequate financing as SWS does. Last December, *BBJ* reported SWS’ tale of woe over being denied the size of license it was initially promised – representing a decrease from 108 megawatts to 25 – that pushed its project below the threshold of viability. But adequate financing may yet save the day. While the current situation denies the transfer of licenses from location to another, Galvin told the *BBJ* he hopes to acquire them. “They may be able to buy some licenses later if the rules change,” said Gatrell, “as I’m sure they eventually will.” Industry sources unrelated to either Hejj or Gatrell have claimed that operating licenses were handed out as political favors shortly before last year’s nationwide election. If true, this may just be evidence of the old paradigm’s staying power. But Hejj sticks to his position that a virtuous model will eventually prevail. He insists that where there is cooperation, transparency and collaboration, there has been and will be success in the new energy economy. “Projects like these bring fresh blood and fresh spirits to Hungary,” he said. “To have resources is not enough. You must also know how to leverage them. Even good brains are not enough: You must be able to turn good research into business. It has been said that Hungary produces some of the world’s finest software engineers, but success comes when Hungary is known for producing the world’s finest software. If Hungary is to become the Kuwait of renewable energy, then a coordinated and networked alliance of local brains and

resources, foreign investment and experience, along with structural support on the part of governments – local, national and EU – will produce tangible, sustainable results.”

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