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## Company has visions of a brighter future

By [ANGELA JEFFS](#)

Contributing writer

Have you heard of a sustainable plant that produces fuel as well as homeopathic medicines? Or a revolutionary process that turns garbage or plants into fuel?

"Let's start with jatropha," says German businessman Hans Henning-Judek, close to his office in Yokohama's Bashimichi. "I call it a miracle plant."

Native to the tropics, jatropha produces fruit year round while managing to improve the soil in which it is growing, rather than degrade it. Used for years for medical properties, its seeds are now being utilized as a biofuel.

"Jatropha grows wherever there's no frost, yielding four times more oil per hectare than rapeseed, soy beans or sunflowers," Henning-Judek says.

"It's inedible for humans and animals, so fuel is not competing with food. While it won't save the world, it is set to make a significant difference."

When Henning-Judek and his wife first came to Japan in 1980, they thought it was for just a couple of years. He had studied law and economics in Germany and came to Keio University on a Monbusho scholarship to research anti-trust laws.

"But you know how it is," he laughs. "One day we woke up, 27 years had flown by, and our daughter who was born here regards Japan as home. Why is it that time seems to pass so quickly here?"

Both Henning-Judek and his wife began teaching German as a sideline, and then moved into translation for — among other clients — the Japanese and German auto industry.



Hans Henning-Judek of Energy Visions



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Their company, J.E. ACCESS Ltd. built up into a very nice little business, which in turn in the mid-1980s developed as a consulting firm which provides an interface between foreign businesses and Japanese companies.

With an eye to the problems of the future, Henning-Judek has a second string to his commercial bow, Energy Visions Co., Ltd., with an affiliated sister company in Sausalito, Calif. This is the result of a long-standing interest in creating sustainable solutions to environmental issues. "When Germany's Green Party started in the 1960s, we were busy advocating the use and recycling of glass bottles as the most friendly environmental solution. Now we've realized plastic bottles need 90 percent less energy, are cheaper to produce, easier to recycle, and have far less impact on basic resources.

"Every environmental move we make is a learning curve," he adds.

Interestingly, Henning-Judek made contact several years ago, with a story about Skysails. (He'd been very early in taking that startup company under contract.) In fact Skysails, operating out of Hamburg, only recently sold its first unit, to an inventive new shipping line called Beluga.

"It's a beautiful idea, using a hybrid system of sail and engine, that saves from five to 50 percent fuel, depending on the route and wind conditions. Beluga's first sail on a container vessel is still relatively small. But it's a great beginning, with the kite started and retracted automatically and controlled by computer."

Skysails is one of 10 companies that Henning-Judek's J.E. ACCESS represents in Japan in a consultancy position. The new company, Energy Visions Co. Ltd., which will actively operate and market KDV biomass to fuel conversion plants in Japan, will also undertake a joint venture with Nandan Biomatrix in Hyderabad, India, and several other companies in Thailand, Malaysia and the Philippines.

It is Nandan Biomatrix that is developing jatropha for bio fuel. A small and highly ethical company started in 2004 to produce homeopathic medicines, most of its resources are now directed into agribiotechnical R&D, with plans to plant 1 million hectares within five years.

"No one is saying jatropha is going to save the world. But it is astonishing — a plant that lives 50 years, with every part usable. The only downside is that fruit have to be picked by hand, because they ripen throughout the year rather than seasonally. But with a growing market, equipment manufacturers will develop harvesting machines similar to olive pickers." Henning-Judek says that the world is trying to learn from the mistakes of ethanol, which is affecting the price of maize and grains, for example, is depriving Mexicans of their staple tortillas.



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Even if all of America's arable land was put under maize for ethanol production, he adds, supply would meet only 7 percent of U.S. fuel needs.

Farmers have to do their homework and think longterm before switching crops for short-term profit. Henning-Judek sees jatropha as just one of many solutions to the problem. Which brings us to Alphakat — and where things really get interesting.

Alphakat in the brainchild of a German inventor named Dr. Christian Koch, with whom Henning-Judek has close links. Two years ago, because Koch refused to give an interview to a German tabloid, the paper ran the headline (a revengeful twist on the name and purpose of the company): Inventor turns dead cats into fuel.

Simply put, what Koch has done is create a process that turns any kind of biomass — garbage and plants — into diesel, heating oil or even A-1 jet fuel.

Called KDV Biomass Diesel Conversion, it promises a revolution — a revolution that will not make the petroleum industry especially happy, but Henning-Judek says he has been careful to build protection into his relationship with Alphakat. KDV stands for Katalytische Drucklose Veroelung, or Catalytic Pressureless Depolymerization, a process that requires a patented turbine and a secret catalyst based on one of the existing 1,600 zeolytes, many of which are used in the chemical industry.

Garbage is passed through mesh on a molecular level to split into diesel fumes. There are no harmful exhaust gasses like dioxin or furans. Nor can anything explode as the entire process takes place under negative pressure.

In the case of organic feedstock mixed with plastic or fossil waste oil, the resulting fuel is not totally carbon neutral, but leaves a far smaller footprint than any fossil fuel — and helps reduce landfill problems.

Electric cars and hybrids are two answers to transport wants and needs. But not the answer. No one is talking, for example, about how to handle the toxic waste of car batteries that have to be changed every three years.

In Japan, Honda is at the forefront of R&D to reduce carbon tireprints and clean the exhaust gas of diesel vehicles. Toyota is building a new state-of-the-art factory in Hokkaido for a joint venture with Isuzu, which specializes in diesel engines.

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"Fifty percent of the cars being produced in Europe are now diesel. Yes, I know there's a lot of excitement about hydrogen fuel cells, but to be honest, there's a way to go yet."

In the meantime, KDV offers a process that does two jobs in one: reduces municipal solid waste — 450 millions tons a year worldwide and growing — and puts a new fuel source on the market. One installation can produce 500 liters of fuel a day.

As Alphakat's appointed representative in Japan and Asia, Energy Visions is ready to roll. Already there are small-scale experimental takeups in many parts of the world.

"In California, we've joined forces with a major Bay Area hauler/recycler, who serves among others the San Francisco Airport, and are in negotiations with the city of San Jose."

Asked his vision of the future, Henning-Judek — who has a car but chooses to ride to work ("except when it's raining") on a bike from Kanagawa's Kanazawa-bunko — wastes no time on his reply.

"To help clean up our act on the Earth. If we don't do this soon, we're going to be in big trouble. The faster we act towards creating a sustainable future the better."

*Energy Visions Co., Ltd. Phone 045-226 1886; fax 045-226 1887 Web site: [www.energy-visions.com](http://www.energy-visions.com) E-mail: [h.judek@energy-visions.com](mailto:h.judek@energy-visions.com)*