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Defining clean tech

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Erwin Burth, business development manager, Clean Tech at Autodesk, provides an explanation of what it means to be a lean green machine.



What do we mean when we talk about 'clean technology'? What exactly is it - and what is it seeking to accomplish? In the simplest terms: clean tech is the application of technology to solve environmental problems. Climate change, resource depletion, water scarcity, and other global environmental challenges have unleashed a wave of innovation. Entrepreneurs worldwide are addressing these issues through using breakthrough technologies and new business models.

From alternative fuels, to energy efficiency, water treatment, transportation, and more, clean tech companies seek to transform our current infrastructure into one that addresses basic human needs - our need for light and heat, our need for water, our need for shelter, and so on - more intelligently, in a manner that conserves resources, reduces pollution and respects resource limits.

Clean Tech is Already Here - and It's Global

Clean tech is already all around us – perhaps more than many people realise. Electric cars and hybrid vehicles are already on the roads. In the European Union there are plans to expand the use of electric vehicles and infrastructure, with €50 million earmarked as part of the Green Car Initiative. Many utilities derive some portion of their power from renewable sources such as wind and solar energy, such as Üz Lültsfeld, a Germany utility company, which gets 40% of its power from renewable sources. Biodiesel producers pick up used cooking oil from restaurants and take it to processing plants to be converted into low-carbon fuel.

Not only is clean tech already happening, it's happening worldwide. Indeed, fuel company, Total estimates that solar power could meet 11% of the world's energy needs by 2050. In many ways, clean tech is the face of industrial expansion in developing countries. While a lot of the activity in Europe and the US is centred on retrofitting and upgrading the existing infrastructure, developing countries can embrace clean tech innovations right from the start for their systems and infrastructure – a leapfrogging effect similar to countries that have skipped land lines and gone straight to broadband smart phones. For instance, Kenya actively encourages the uptake of renewable energy and is a world leader in the number of solar panels installed per head of population.

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Design is at the Core of Clean Tech

Any paradigm shift, by nature, is "innovative" - it requires people to set aside the old way of doing things and invent a new way of doing things. This is precisely what clean tech is doing. And for this reason, clean tech companies need technology that allows them to explore ideas, try out multiple concepts, and generally push the boundaries of what's possible.

Autodesk supports this wave of innovation through a full slate of design and engineering software solutions that enables companies to speed up and drive greater efficiency in the design process. The breadth and depth of Autodesk offerings gives clean tech companies the necessary tools to design, visualise, and simulate their products - reducing time to market and providing the companies a significant competitive advantage.

Through the Autodesk Clean Tech Partner Program, Autodesk provides support for early-stage clean technology companies who are working to solve some of the world's most pressing environmental challenges by providing them with design and engineering software worth up to €120,000 Euros – and/or £100,000 — for a nominal fee. Following the launch of the scheme in Europe in March 2010, Autodesk recently announced that momentum is growing for the scheme across the region .

Clean Tech in Action

Several Autodesk Clean Tech Partner companies within Europe and Africa are already using Autodesk software to achieve pioneering innovation.

- Pyrum Innovations is a German/French start-up working on a newly invented recycling process for used tyres;
- IT Power's Marine Group, a division of IT Power Ltd, is a 12-person strong marine energy team, based in the UK and concentrating on delivering engineering services enabling the development of wave and tidal power;
- Vehiconomics is a Stockholm-based automotive technology start-up that is developing a
 - pioneering new three-wheeled ultra fuel-efficient lightweight vehicle;
 - Cleaner Air Solutions is a UK specialist in solar electricity generation that supplies renewable energy systems to the domestic and commercial market;
 - Echotect is a Dutch company that offers a cost-effective, recyclable and environmentally sustainable alternative to engineered stone.

Taken together, these companies - and the diverse work they're doing - paint a vivid picture of the rapidly growing clean tech industry.

Future Prospects

Clean tech encompasses many different industry subsectors in both the developed and the developing world. In the first half of 2010 alone, clean tech venture capital investment for Europe and Israel reached €596 million (\$798 million) according to the Cleantech Group — €52 million (\$70 million) more than the previous half year record for the region, set in the first half of 2008.

Innovation drives this growth, and it is at the heart of every clean tech company. Whether they're focusing on water treatment, brainstorming new forms of renewable energy, or rethinking modes of transportation, clean tech entrepreneurs are determined to come up with viable alternatives to our current way of doing things. With the right software tools to support their innovation, the clean tech space is poised to achieve the major breakthroughs needed to address some of the world's most pervasive environmental problems.