NEWS

WORLD'S SMALLEST LASER UNVEILED Spaser promises ultrafast nanoscale circuits. www.nature.com/news

which cut demand for many commodities.

The Amazon Fund got off the ground with a pledge from Norway, which committed up to \$1 billion until 2015. Brazil will receive around \$114 million this year, but must continue reducing emissions in order to receive future payments. Climate negotiators are increasingly focusing on national baselines such as this, instead of on particular projects that might save one patch of forest while pushing loggers, developers and landowners down the road to another patch.

Getting REDD right in Brazil and beyond is "totally possible and essential", says Lars Løvold, director of the Rainforest Foundation Norway in Oslo, which, along with Friends of the Earth Norway, proposed to the Norwegian government that it invest in a big forest conservation initiative. "But you need some projects to show that it works."

Eyes in the sky

In the coming weeks, the Brazilian Development Bank, which manages the Amazon Fund, is expected to announce the first such project awards. Several dozen applications have been submitted, ranging from community initiatives like the project in Pará to land registry programmes and a proposal from Brazil's National Institute for Space Research for a new satellite to monitor deforestation.

Within Brazil, the money coming from abroad has whetted local appetites for more. And in June, the nine governors of the Brazilian states in the Amazon region penned a letter to Brazilian President Luiz Inácio Lula da Silva urging the country to reconsider its opposition to directly tapping carbon markets for forest conservation. The governors called the Copenhagen talks "a golden opportunity", suggesting that carbon markets could surpass \$2 trillion annually by 2020 and \$15 trillion in 2050.

Paulo Adario, Amazon campaign director for the Brazilian arm of environmental organization Greenpeace, is wary of governors opening their states directly to international investments; such a deal, he says, could undermine the idea of a national baseline, without which there is no way to protect the forest as a whole. "The federal government needs to have a national vision about the problems and the solutions for the country," he says, "and then performance will be evaluated against results."

The official deforestation data for the 2009 season, which ended in July, will be available in December. Preliminary results suggest that total deforestation will hit a two-decade low of less than 10,000 square kilometres — low enough to secure another payment from Norway in 2010.

Jeff Tollefson

Nanoparticle safety in doubt

what the link is or

if there are other

exacerbating

Claims that seven Chinese factory workers developed severe lung damage from inhaling nanoparticles are stoking the debate over the environmental-health effects of nanotechnology.

A paper published in the European Respiratory Journal claims to be the first to document cases of ill health caused by nanoparticles in humans (Y. Song, X. Li and X. Du Eur. Respir. J. 34, 559–567; 2009). Other experts are sceptical as to whether nanoparticles are actually to blame, but the paper has triggered lively discussions.

"The study raises the bar for doing appropriate research as fast as possible to find out where the dangers might lie when working with nanomaterials," says Andrew Maynard, a nanotechnology expert at the Woodrow Wilson International Center for Scholars in Washington DC.

The study describes seven women, aged 18–47 years, who worked in an unidentified printing factory in China; two of them later died. They all had pleural granulomas — ball-like collections of immune cells in the lining of the lung that form when the immune system is unable to remove a foreign body. They also had excessive, discoloured fluid in the lung lining. Particles around 30 nanometres in diameter were found in lung fluid and tissue.

The study says that the symptoms towere caused by inhaling fumes produced when the workers heated polystyrene boards to "We can't say

polystyrene boards to 75–100 °C. The boards had previously been sprayed with a 'paste material' made from a plastic identified as a polyacrylate ester.

The workroom, of around 70 square metres, had one door and no windows. The ventilation unit had broken down five months before symptoms started to manifest, and the door had been kept closed to keep the room warm. The workers wore cotton gauze masks only on an "occasional basis".

Electron microscopy found nanoparticles around 30 nanometres in diameter in the paste and in dust particles that had collected at the inlet of the broken ventilation unit. Lead author Yuguo Song, a clinical toxicologist at Beijing Chaoyang Hospital, says "it is obvious the disease is not due to microparticles or vapours, because the pulmonary epithelial cells are



Could nanoparticles cause some lung damage?

full of nanoparticles".

Maynard says the symptoms seen in the patients are "similar" to those seen in animals exposed to nanoparticles. He adds that damage to the areas surrounding the lungs suggests that larger particles are not to blame, as these tend to be constrained within the lungs. But because the study does not identify what nanoparticles were involved or their concentration, he says, "we can't say what the link is or if there are other exacerbating circumstances".

Ken Donaldson, a respiratory toxicologist at the University of Edinburgh, UK, doubts that nanoparticles

are to blame. He says the symptoms are more typical of chemical exposure. "I don't doubt that nanoparticles were present, but that does not mean they were the main arbiters," he says.

circumstances."

Donaldson says that the and no plastic material the patients worked with is the more likely culprit — as it would have been highly toxic at the levels they were probably exposed to given the size of the room they worked in and its lack of ventilation.

Anthony Seaton, an emeritus professor in environmental and occupational medicine at the University of Aberdeen, UK, agrees that the study does not pin down nanoparticles as the cause of the ill health. Rather than an insight into the toxicology of nanoparticles, he says, the study is an example of a "total failure in health and safety procedures".

Natasha Gilbert