

Mobiles switch on with biofuels

Fuel derived from cotton and a shrub said to relieve constipation could soon power mobile networks across India.

The crops will be used to generate biodiesel to fuel mobile base stations in unconnected rural areas, without access to electricity.

One third of Indian homes are not connected to the power grid and demand for mobile phones is growing rapidly.

A pilot scheme in west India has been set up by mobile firms and industry body the GSMA development fund.

"It is about connecting the unconnected," said Dawn Hartley, development fund manager at the GSMA.

Rural connection

Mobile phone use has exploded across India. In 2003 there were just 13 million mobile phone subscribers. Today, there are nearly 130 million.

Much of this take-up has been in urban areas where there is a comprehensive mobile network.



But outside the major towns, where approximately three-quarters of India's 1.2 billion people live, mobile coverage is fragmented.

This is in-part because the electricity network, used to power the mobile network infrastructure, is often unreliable and does not cover the whole of the country.

"As GSM operators expand their network coverage into new areas, one of the biggest challenges is to overcome operational issues associated with the lack of basic infrastructure," said Mats Granryd, managing director, Ericsson India.

Remote base stations, which transmit and receive information from handsets, are already powered by conventional fuel generators.

But these can be dirty and require a lot of maintenance.

They can also be expensive to run requiring weekly deliveries of fuel. Ericsson estimates that half of the cost of a remote base station goes on fuel.

Clean running

The pilot scheme, put forward by the GSMA and mobile firms Idea Cellular and Ericsson, hopes to overcome some of these problems by using mobile base stations that use generators running on biodiesel.

The fuel is created by combining plant oils with alcohol, in the presence of a catalyst to speed up the process.

The scheme in India will use oil derived from plants such as cotton, a mahogany-like tree called neem and jatropha.

Jatropha trees are already widely grown across India, specifically as a biofuel crop. The seeds of the plant are a traditional remedy for constipation.

Biodiesel has a lower environmental impact than conventional fuels and crucially, can be grown and

processed locally.

Although at pilot stage, the scheme hopes to have up to 10 base stations operating in Pune, in the Maharashtra region of west India, by mid-2007.

The projects build on other GSMA projects operating in Lagos, Nigeria, where the biofuel is derived from groundnuts.

A week of special programming about India can be heard on the BBC World Service from 3 to 11 February

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