

Better ways to clean up old mines

November 7 2016, by Adam Barclay

The world's foremost experts in mine site rehabilitation and clean-up will gather in Singleton NSW on 6-8 December 2016 to discuss the latest and best ways to clean up old mine sites that may still be leaking toxins and pollutants into water, air and the human food chain.

Hosted by the Cooperative Research Centre for Contamination Assessment and Remediation of the Environment (CRC CARE) and the University of Newcastle with support from the NSW Department of Industry, the summit will also focus on the sustainable closure of existing mines.

"As one of the world's leading mining nations, it is Australia's responsibility to lead in developing systems that ensure that mining operations do not contaminate the wider environment, or toxify the community, both during and after the life of the mine," says conference host, Professor Ravi Naidu, the Managing Director of CRC CARE.

"Unfortunately a lack of appropriate policies during the first century or so of mining in Australia has resulted in an estimated 50,000 abandoned mines scattered around our landscape, some dating as far back as the early settlement of the continent by Europeans," Prof. Naidu says.

"Every one of these is a potential source of acid drainage, runoff and dust containing various metals that may be toxic and affect the health and safety of people living nearby, as well as the health of our environment, rivers, groundwater and so on.

"In Queensland, the cost of cleaning up old coal mines alone has been estimated at \$3 billion," he says. "From this we can gauge the total cost of cleaning up the whole of Australia could run into tens of billions."

"We need to be aware, when we start a mine, that it does not stop producing contaminants when mining operations cease. It may continue to leach toxins and blow dust into the environment for decades, even centuries, affecting future communities that spring up around it."

Dealing with Derelict Mines 2016 will particularly focus on a risk-based approach to mine-site rehabilitation. Instead of considering the total contaminant content of a site (as is the case for most current policies and technologies), a risk-based approach considers the contaminant fraction that actually poses risk to humans, animals, plants and microbes, and consequently designs end use according to contaminant exposure and associated risks. This can substantially lower the cost of remediation without compromising human and environmental health. Although such an approach has been accepted by regulators for the management and/or remediation of other types of contaminated sites, it has not yet been applied to derelict mines.

"Farmers in particular are increasingly worried about the contamination of surface and ground water supplies used to grow crops or livestock, as the fracking debate shows."

"This legacy issue for mining has not been well planned in Australia. There are many sites that still need attention – and the cost of cleaning them often falls on the taxpayer, especially if the company that mined the site no longer exists.

"This summit will focus on devising the most cost-effective ways to clean up and remediate all forms of mining operations, for the protection of people and their livelihoods, and of the wider environment. It is to

demonstrate Australian world leadership in this field."

Dealing with Derelict Mines 2016 is the inaugural summit on abandoned mines. It will attract a unique and international mix of experts, researchers and decision-makers from academia, government and industry to exchange knowledge, experience and research innovations.

More information: For more details, see www.crccare.com/derelictmines2016

Provided by CRC CARE

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