



reflections

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World Environment Day (WED) is your day – an occasion for the public to demonstrate, by practical and inspiring grass roots action that positive environmental change is alive and kicking in villages, towns and cities across the globe. It also needs to be a Day for transformational thinking and intellectual debate, which is why UNEP commissioned a study on biosequestration – an inelegant word perhaps but one with extremely elegant and far-reaching implications.

Carbon capture and storage is an increasingly popular solution to the climate change challenge. The idea is that carbon emissions from power stations and other sources can be captured, consigned to underground stores in the earth's geology, and contained within them. By some estimates it could contribute 15 to over 50 per cent of the global effort to stabilize emissions of greenhouse gases at 450 to 750 parts per million.

Not everyone is convinced, however. Some experts are concerned that the technology is not tried and tested and that the CO₂, instead of being locked away, could suddenly bubble back into the atmosphere.

Yet there is another form of carbon capture and storage that has been perfected over hundreds of millions of years. Forests naturally remove carbon,

locking it away in tree trunks and branches, and returning it to soils when leaves are shed. But instead of maintaining and enhancing nature's own solution, the world is destroying it. Indeed some 20 per cent of greenhouse gas emissions come from clearing and burning forests.

Paying tropical forested countries to manage forests could reverse this and Reduced Emissions from Deforestation and Forest Degradation (REDD) must be a key component of 'sealing the deal' at December's crucial UN climate convention meeting in Copenhagen. By one estimate, Indonesia alone could get compensation of \$1 billion a year by reducing its deforestation rate to one million hectares annually.

UNEP's World Conservation Monitoring Centre estimates that some 15 per cent of carbon is locked away in trees and forests in the world's National Parks and protected areas. Boosting investment in these could not just increase carbon capture and storage but trigger a wide range of other benefits, from soil and water stabilization and reduced biodiversity loss to improved tourism revenues and new jobs. Mexico – the global host of WED 2009, which has Latin America's second largest closed-canopy forest – is among those in the forefront of the REDD debate.

Other natural systems – from peatlands and wetlands to grasses, soils and shrubs – also have the ability either to release or to absorb carbon. The seas and oceans are cycling up to 40 per cent of CO₂ emissions for free.

Over the past 10,000 years, farming has domesticated and promoted single season annually cropped cereal, oil and leguminous plants. But experts suggest that moving 'back to the future' to perennials, multi-year crops with deep roots, will boost soil fertility and stability 50 fold and may prove more resilient in a climate changed world. They are also 50 per cent better at carbon capture and storage than their annual cousins. And because they do not need to be planted every year, there is less need to use energy-burning farm machinery, pesticides and fertilizers.

Carbon capture and storage may seem a simple and straight forward technological fix, but does it make our economies more resource and more fuel efficient, or simply perpetuate a dependency on fossil fuels and energy insecurity. What if the hundreds of billions of dollars now being invested in it were partly diverted into its biological counterpart. This well proven, natural system could well provide, as they say, "a bigger bang for our buck", which not only removes carbon dioxide but addresses wider sustainability challenges including a true Green Revolution and the poverty-related UN Millennium Development Goals.