

In addition to the agricultural and industrial benefits of large water diversion projects, there are many environmental benefits that could help to popularise these large water diversions by contributing to renewable energy, CO2 sequestering, countering land degradation, and enhancing habitat.

Sequestration of CO2 by vegetation is a feature of the great green wall in Africa, China's reforestation projects, Israel, and Australia's approach to meeting Kyoto Protocol commitments. A source of revenue for a Bradfield Scheme could be companies looking for carbon credits under "Removal Units" (RMUs) issued by the Kyoto Protocol country on the basis of land use, land use change and forestry activities under Article 3.3 or Article 3.4 of the Kyoto Protocol.

The Australian Kyoto target involves limiting emissions to 5 percent below 2000 levels by 2020, emissions of 524 million tonnes in 2020. It adopts a methodology where it calculates the cumulative level of emissions over eight years needed to hit the target.

Under the articles, forest management, cropland management, grazing land management, and re-vegetation, could help Australia meet its commitment to continue to reduce emissions. Under Kyoto Protocol rules, a tradable allowance called an assigned amount unit is issued for every tonne of emissions from Forest conversion in the 1990 base year. This treatment of Forest Conversion emissions is exactly the same as the treatment of emissions from sources in the industrial sectors.

Growing forestry in the flood flow section of the half-open channel would be similar to the Great Green Wall - an African-led movement to grow an 8,000km forest across the entire width of Africa that is already bringing life back to Africa's degraded landscapes at an unprecedented scale, providing food security, jobs and a reason to stay for the millions who live along its path.

Flood irrigation is possible for deep watering of trees for example, in "flood basins". For intermittent storages on average 100km long and 1 km wide, this would provide a flood irrigated area of 1000ha per unit or 10,000ha over the extent of the project. Forest trees can be completely inundated for short periods without damage, and control of the periods of inundation ensures that the vegetation is watered but not killed. While the forest absorbs water increasing the losses, it may be that these losses help to maintain the optimal operating conditions of the system. We will have established an Australian Green Wall.