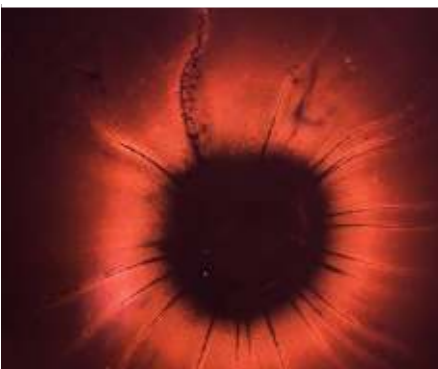




A third of the earth's soil is now acutely degraded due to agriculture, according to the UN's Global Land Outlook. Declining productivity is seen across cropland, forest land and grass land. The current 'extractive' model of Industrial agriculture is a bigger factor in degradation than climate change erosion and forest loss. *Source: United Nations*



Carbon farming is showing increasing potential. Studies highlighted by the FAO have estimated the potential savings in CO2 emissions from soil sequestration at anything between 10% and an extraordinary 100% of global emissions. A 2017 study found that better soil management from crop farmers alone could cut annual emissions from the agriculture sector by up to 1.85 billion tonnes per year, equivalent to the GHG emissions output of Canada and the Philippines combined. *Sources: FAO; Scientific Reports*



Biotech start-up Kiverdi is commercialising a technology that uses a special class of chemoautotrophic microbes to transform waste carbon dioxide from industry into protein, high-value oils (including a synthetic palm oil), and bio-based products.

Regenerative agriculture at scale is being practised by Leontino Balbo, the world's largest producer of organic sugar, based in Brazil. New approaches to planting, harvesting and pest control boost soil quality and biodiversity, and have increased yields substantially.



The Earth recovery business

It's 2035. Climate and ecosystem crises in the mid-2020s hit global agricultural yields badly and forced governments and business to act strongly on carbon and regeneration. Where governments are weak, agribusiness has stepped in as a partner to enable action. Topsoil loss, desertification and water shed destruction are problems affecting many food-producing nations. Regenerative agriculture of various sorts is now acknowledged as key to continuing food production. Biotech is also being widely used in an attempt to maximise food yields and – controversially – to aid some regeneration. There is no binding international carbon regulation, but a functional private international carbon market is developing and carbon farming is a profitable business.



SolarCoin is a cryptocurrency used to incentivise global solar energy generation. It works like a reward program for solar power generators; people or businesses with solar panels can earn a coin for each megawatt hour of electricity their solar panels generate. Users have to send scans of verified meter readings as proof of power generation, which are checked by volunteers.

For more than 10,000 years China's loess plateau was consistently degraded by human impact resulting in serious ecological damage and poverty for its communities. However, in only ten years, 8.6 million acres (the size of France) of this heavily degraded land was regenerated, via techniques such as terracing and tree planting.



