

June 19, 2023

Removal activities under the Article 6.4 mechanism

Levitree response to information note

Dear Supervisory Board:

Levitree is grateful for the opportunity to provide feedback on the Article 6.4 Supervisory Body's Information note on Removal activities under the Article 6.4 mechanism Version 04.0.

What Levitree Does

Levitree sequesters carbon by pumping wood chips 5-100 meters deep underground. The hydraulic pressure of the pump forces open an aperture in the subsoil and this space is filled with wood chips which cannot degrade in the anoxic environment created. The process raises the surface of the earth and is the lowest cost mechanism to protect structures and roadways from rising sea levels and subsidence caused by groundwater extraction. Levitree is affiliated with UC Berkeley and based in San Rafael, CA USA. We were founded in 2021 and are performing our first commercial sequestration projects in central California.

Subterranean Wood Injection, (SWI) is a new technique included in the forth-coming Puro Earth methodology Terrestrial Biomass Storage. SWI is particularly important in areas of the GLOBAL SOUTH and Island Nations because local waste biomass, which is constantly burned for disposal, may be used to lift terrain rather than hard to find sand and dirt. Woody biomass can be pumped under flooding airports, roads and buildings to lift these structures slowly back up above flood waters.

There is extensive scientific documentation that carbon sequestration in this way is permanent. Indeed about one third of the global terrestrial carbon is naturally sequestered in subterranean anoxic spaces where it is documented to persist from thousands up to millions of years.

This technology creates an opportunity for European and US funders who wish to pay for carbon sequestration to directly fund that sequestration in a way that lifts local infrastructure in the Global South and defends local communities from rising seas using local labor and resources.

SWI carbon sequestration may be completely verified by third-parties after the fact using standard soil core samplers drilled to depth. We use groundwater and soil vapor monitoring systems to establish that no wood degradation is occurring. In addition local surveys showing change in surface elevation verify the areas where subterranean wood injection has occurred and biomass delivery receipts may be used to verify the provenance of the local woody biomass. Another huge co-benefit is creating a scale-able more valuable disposition for waste biomass to avoid massive amounts of wood smoke which today causes tens of thousands of deaths in poor rural communities world wide.

Levitree Suggestions for the Supervisory Info Note

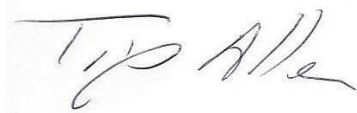
The note does not envision that unlimited CO₂ sequestration can be accomplished by pumping wood chips underground in a liquid slurry. There is no functional limitation to how much carbon the ground can store when the storage is beneath the active and aerobic layers of the soil. Subterranean wood injection is a hybrid technology storing biomass directly beneath intact geological formations at depths of 5-100 meters beneath the soil surface. This is much deeper than conventionally understood soil carbon pools but much shallower than “geological” injection of CO₂. It is as permanent as any other geological storage methodology but uses intact un-altered biomass chips available anywhere that trees grow.

Many do not yet understand that a liquid slurry can carry wood chips to such depths, that the liquid will force open a subterranean space, and that the wood chips will last millions of years based on geological and microbiological data. Importantly many have not yet envisioned that carbon sequestration in this manner creates more value in the form of property protection by terrain elevation than it costs to perform. New ideas such as this and many others will join and likely supplant other more widely understood but vastly more complicated and expensive forms of engineering sequestration such as BECCS and DACCS. This “land-based system” IS an “engineering solution” that overcomes perceived barriers, is very low cost, can be used with local resources in the Global South or the North, and will sequester GtCO₂e/yr of woody biomass each year with 98+% carbon efficiency.

Please include Subterranean Wood Injection in your Engineering-based removal activities and we suggest you leave a category for both injection-based and excavation-based wood burial in your Land-based removal activities as well.

We trust that our response can be of use to the Supervisory Body as it moves forward with its work.

Sincerely,



Trip Allen

CEO, Levitree, Inc.