

SCIENCE NEWS

'I've always wanted to be a tree': Human composting starts to catch on

California Gov. Gavin Newsom this month signed a bill that requires state regulators to create a program allowing "natural organic reduction" by 2027.



— A composting vessel array. Recompose



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By Evan Bush

No need for an urn or a casket: California will soon offer a new option to be laid to rest – in a steel vessel, surrounded by wood chips and destined to become compost that could fertilize new life.

California Gov. Gavin Newsom this month signed a bill that requires state regulators to create a program allowing “natural organic reduction” by 2027. It will become the fifth state to pass legislation permitting what providers often call “human composting” or “terramation.”

The process, which is essentially the controlled decomposition of a human body by a funeral service provider, takes about two months. Processing a person’s remains creates 1-2 cubic yards of compost – enough to nearly fill the bed of a pickup truck, which can then be used in gardens or conservation projects.

The California law is the latest example of how human composting is gaining political momentum and prompting some people to rethink customs surrounding death and the environmental impact of what could be their final decision on Earth.



— A Recompose dummy with plant material. Recompose

Proponents say the environmental benefits of human composting – which requires little to no material, fossil fuel or space – makes a compelling case, for some, to forgo cremation or a casket funeral.

State Rep. Cristina Garcia, the California Democrat who sponsored the legislation, extolled those benefits, but also said the legislation was born out of her reflections over mortality as she cared for her sick parents and also her desire to be returned to the Earth when she dies.

“I’ve always wanted to be a tree,” Garcia said. “The idea of having my family sitting under my shade one day – that brings a lot of joy.”

Garcia introduced human composting legislation three times in California before it passed. Its passage means that nearly one-fifth of all U.S. residents live in states where the process is legal or soon will be.

The bill took cues from Washington state, where lawmakers in 2019 became the first in the U.S. to legalize human composting and where a nascent industry is growing. Four Washington state funeral facilities are now licensed to perform natural organic reduction, according to Rob Goff, the executive director of the Washington State Funeral Directors Association.

California’s law will give regulators with the state’s Cemetery and Funeral Bureau until 2027 to create regulations for a human composting program.

Human composting offers green alternative to burial and cremation



So far, 252 people who died in Washington state have had their remains composted, according to data provided by the state Department of Health from 2020 through mid-September. That represents a tiny percentage of Washington's deaths. More than 180,000 people died in the state during this time period – nearly 79% were cremated and about 16% were buried.

The demand for composting, however, is developing before death.

Recompose, the Seattle-based company whose leader spearheaded legalization efforts in Washington state, has already signed up about 1,200 people to pre-arrange future death care through the company.

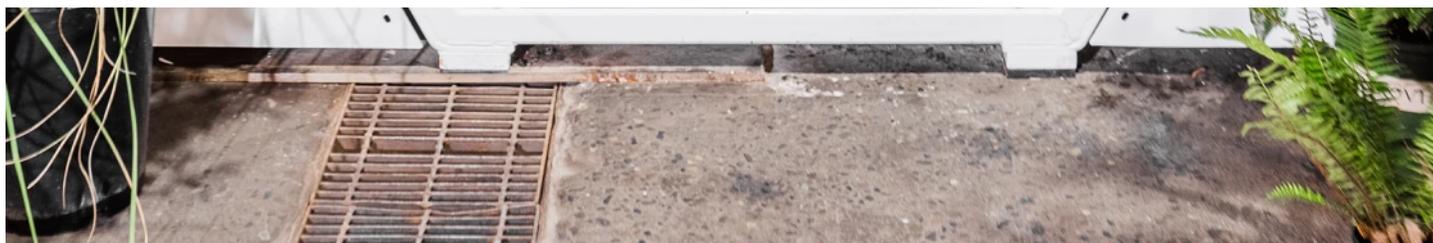
Nina Schoen, a 51-year-old Seattle resident, is making monthly payments after signing up with Recompose and has already polled family members to see who would be interested in receiving her compost when the time comes.

“While celebrating everyone’s choice, I could never imagine being embalmed in a casket, put in a grave where I had a place on the Earth dedicated to me forever. That doesn’t feel right to me,” Schoen said.

Recompose has 27 employees and operates near downtown Seattle is building a new facility in Denver. It plans to expand to California in the coming years, said founder and CEO Katrina

Spade.





— A Recompose vessel. Recompose

“Climate change, the state of the planet, the grief we feel about it, is making people more conscious of their end of life, their impact on the planet,” Spade said. “Human composting can be the next cremation. If we can really be the default, it would make a tremendous impact.”

Recompose’s [base price is \\$7,000](#). Another Seattle-area company, called Return Home, [charges \\$5,000](#).

Mortuary prices vary widely by region, said Jeff Jorgenson, of Elemental Cremation & Burial in Washington. He estimated base prices for cremation start at around \$800. Alkaline hydrolysis, a process that uses water, chemicals and heat to break down the body, starts at about \$1,500. Casket burials are more expensive.

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“You can’t do a traditional burial for under \$12,000 in Seattle,” Jorgenson said, including the cost of space at a cemetery.

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The know-how behind human composting began in ranchers' fields.

Composting “is a very effective and safe way of managing animal carcasses and it’s really been gaining favor over the last 20 years,” said Lynne Carpenter-Boggs, a soil scientist and professor at Washington State University, who helped develop the science behind human composting.

Years ago, as Spade began to develop the seed of the idea that would grow into Recompose, she got in touch with Carpenter-Boggs, who established a composting program for livestock in 2006 at Washington State.



— Founder and CEO Katrina Spade. [Recompose](#)

After years of testing and trying pilot projects that involved bodies donated for science, Carpenter-Boggs and Spade developed the natural organic reduction process in use today at Recompose. Other companies in Washington state, including Return Home, use similar processes with differences in materials, timing and containers.

At Recompose, bodies are not embalmed but kept cold and placed in a steel vessel. Layers of straw, alfalfa and wood chips are placed above and below the body.

Air is pumped into the closed vessel. Naturally occurring microbes responsible for decomposition, which are mostly bacteria, degrade the body and warm up the vessel.

“It should take just a few days before the temperature becomes very high,” said Carpenter-Boggs, who is now a consultant for Recompose. That heat – 131 to 165 degrees Fahrenheit – kills pathogens.

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Recompose workers control air flow, monitor moisture and track the temperature inside the vessels. Biofilters prevent odors from escaping.

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At Recompose, the initial decomposition process takes about 30 days. Afterward, workers remove metals and plastics that might have existed within the body. Then, they grind the bones down and place them with the rest of the material into a curing bin, where all the material receives another two to four weeks of decomposition.

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“What we give back to families is very similar to what you might find in a nursery in a bag of compost,” Spade said.

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Rethinking how the U.S. disposes of bodies could shift the funeral industry’s environmental impact. In 2021, 57.5% of Americans were cremated and 36.6% were buried, according to a report from the National Funeral Directors Association.

Crematories, which are typically regulated by clean air agencies, use fossil fuels to power their work. Estimates vary, but each body processed in a crematorium puts off [several hundred pounds](#) of [carbon dioxide pollution](#), which contributes to global warming.

During a surge of Covid-19 in winter 2021, so many people were dying in Southern California that [regulators had to suspend limits on how many cremations could take place each day](#).

In cremations worldwide, the incineration of dental fillings that contain mercury contributes to several tons of mercury pollution each year, [according to a United Nations estimate](#).

Traditional burial requires tons of steel, concrete and land that must be watered and maintained in perpetuity. Human composting could instead help soils sequester carbon and provide nutrients for plant life.

Once the process is complete, Recompose offers to transport the composted remains to a nonprofit forest for conservation projects.

Many families take it all home.

“One family started an orchard on a hillside,” Spade said. “Another family brought the soil to their neighborhood and asked neighbors to bring buckets. This person’s soil nourished gardens around the neighborhood.”

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