

AN ECO-CONSCIOUS FAREWELL

Tanya D. Marsh & Joe L. Whalley***

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I. RISE OF THE “GREEN MARKETPLACE”¹

Now more than ever, Americans are expressing a clear interest in the environment.² Such an interest manifests not only in concern for climate change but also in the environmental options available to everyday citizens.³ “80% of consumers are very or somewhat concerned about the environmental impact of the products they buy,”

* Tanya D. Marsh is a Professor at Wake Forest University School of Law. Marsh teaches courses in property, real estate transactions, and estates and trusts law, as well as the only course in a U.S. law school on funeral and cemetery law. Marsh is the author of *The Law of Human Remains* (2015), the first treatise on the subject in seventy years, and the coauthor of *Cemetery Law: The Common Law or Burying Grounds in the United States* (2015), the first casebook in the subject.

** Joe L. Whalley is a 2024 graduate of the Wake Forest University School of Law and former Articles Editor for the *Wake Forest Journal of Business and Intellectual Property Law*.

1. This Essay expands on an idea that previously appeared in Tanya D. Marsh, *Greening the American Way of Death*, HUFFPOST (Dec. 6, 2017), <https://perma.cc/D5QA-ZSHJ>.

2. ALEC TYSON ET AL., PEW RSCH. CTR., GEN Z, MILLENNIALS STAND OUT FOR CLIMATE CHANGE ACTIVISM, SOCIAL MEDIA ENGAGEMENT WITH ISSUE 14 (2021), <https://perma.cc/4E8J-2LEF>.

3. *Id.*

and most of these same consumers are even willing to pay a premium for sustainable products.⁴

This desire for sustainability applies across the consumer sector. In general, products marketed with environmental, social, and governance (ESG) claims “averaged 28 percent cumulative growth over the past five-year period, versus 20 percent for products that made no such claims.”⁵ Given the relatively young market for such goods, such a rate is significant and beneficial not only for those consumers but also for the industries which capitalize on this clear interest.⁶ The desire for greener options is a clear and present demand for many Americans, and the funeral industry is no different.⁷

The rising interest in environmentally friendly funeral options comes at a time of great instability and change for the funeral industry.⁸ For the past several decades, the cremation rate in the United States has been rising.⁹ In 2023, 60.6% of American deaths resulted in cremation.¹⁰ There is no publicly available breakdown of the disposition method used by the remaining 39.4% of American deaths, but there are limited legal options.¹¹ “Casket burial,” which is typically the burial of an embalmed body in a hardwood or steel casket encased in a steel or concrete vault, is legal in every American jurisdiction.¹² Donation of human remains for anatomical study or scientific research is similarly universally legal.¹³

Four additional methods are limited in availability, either because they are not yet sanctioned by the law in every state, or because the market does not yet offer sufficient access, or both.¹⁴ The

4. *Interest in Sustainable Products Remains Top of Mind for US Consumers*, PDI TECHS. (Apr. 23, 2024), <https://perma.cc/J6KH-EDGJ>.

5. *Consumers Care About Sustainability—and Back It Up with Their Wallets*, MCKINSEY & CO. (Feb. 6, 2023), <https://perma.cc/NAF2-9JUP>.

6. *Id.*

7. See generally Tanya D. Marsh & Quincey J. Pyatt, *Maybe It’s Time to Let the Old Ways Die: New Data on Consumer Preferences in Death Care*, 59 WAKE FOREST L. REV. 909 (2024).

8. See Tanya D. Marsh, *Regulated to Death: Occupational Licensing and the Demise of the U.S. Funeral Services Industry*, 8 WAKE FOREST J.L. & POL’Y 5, 21 (2018) (“[W]e are in the midst of a death care revolution.”).

9. CREMATION ASS’N OF N. AM., *CANA Annual Statistics Report*, 60 CREMATIONIST 2, 22 (2024).

10. *Id.*

11. *Id.* (explaining that the Cremation Association of North America (CANA) acquires its data through national records when state records are unavailable).

12. *Natural Burials in the US*, MEM’L PLAN. (Feb. 15, 2023), <https://perma.cc/62U2-LGAP>.

13. Brian Grow & John Shiffman, *In the U.S. Market for Human Bodies, Almost Anyone Can Dissect and Sell the Dead*, REUTERS (Oct. 24, 2017), <https://www.reuters.com/investigates/special-report/usa-bodies-brokers>.

14. Michael J. Coren, *From Human Composting to Freeze-Drying, New Ways to Plan a Funeral*, WASH. POST (Jan. 31, 2023),

two new methods of disposition that are currently being legalized are alkaline hydrolysis or water cremation, now legal in twenty-seven states,¹⁵ and natural organic reduction or human composting, now legal in twelve states.¹⁶ The third method, “green burial,” which is typically defined as the burial of an unembalmed body in a biodegradable shroud or casket, is universally legal but not universally available in the United States.¹⁷ The fourth method, “grave recycling,” which involves the temporary use of a grave, is not widely available in the United States.¹⁸

Alkaline hydrolysis, natural organic reduction, and green burial are clearly the most environmentally friendly of the available methods of disposition.¹⁹ Cremation is understood to be less

<https://www.washingtonpost.com/climate-environment/2023/01/31/green-funeral-options-cremation-burial/>.

15. See ALA. CODE § 34-13-1(a)(3) (2023); ARIZ. REV. STAT. ANN. § 32-1341 (2024); CAL. HEALTH & SAFETY CODE § 7010.1 (2024); COLO. REV. STAT. § 12-135-103(4) (2023) (not restricting “cremation” to processes involving heat); CONN. GEN. STAT. § 20-207(3) (2023); FLA. STAT. § 497.005(22) (2023) (not restricting “cremation” to processes involving heat); GA. CODE ANN. § 43-18-1(5) (2024); HAW. REV. STAT. § 531B-2 (2023); IDAHO ADMIN. CODE r. 24.08.01.452 (2024); 410 ILL. COMP. STAT. 18/5 (2024); KAN. STAT. ANN. § 65-1760 (2023) (not restricting “cremation” to processes involving heat); 10-144-227 ME. CODE R. § 1 (2024); MD. CODE ANN., BUS. REG. § 5-101(e) (2023) (not restricting “cremation” to processes involving heat); MINN. STAT. § 149A.941 (2023); MO. CODE REGS. ANN. tit. 20, § 2120-2.070 (2024); NEV. STAT. § 451.607 (2023); N.C. GEN. STAT. § 90-210.136 (2023); OKLA. STAT. tit. 59, § 396.2 (2024); OR. REV. STAT. § 97.010 (2023); S.C. CODE ANN. §§ 32-8-305(9), 40-19-20(6) (2024); TENN. CODE ANN. § 62-5-803 (2023); 25 TEX. ADMIN. CODE § 479.4 (2024); UTAH CODE ANN. § 58-9-613 (2023); VT. STAT. ANN. tit. 26, § 1211 (2023); WASH. REV. CODE § 68.50.110 (2024); W. VA. CODE § 30-6-22b (2024); 35-0001 WYO. CODE R. § 6 (2024).

16. See ARIZ. REV. STAT. ANN. § 32-1301 (2024); CAL. HEALTH & SAFETY CODE § 7002.7 (2024); COLO. REV. STAT. § 15-19-110 (2024); DEL. CODE ANN. tit. 16, § 3101(8) (2024); 2024 Me. Laws 676; H.B. 1168, 446th Gen. Assemb., 2024 Reg. Sess. (Md. 2024) (effective Oct. 1, 2024); H.B. 5247, 93rd Leg., 4th Engrossment (Minn. 2024) (effective July 1, 2025); NEV. REV. STAT. § 451.623 (2023); N.Y. NOT-FOR-PROFIT CORP. LAW § 1502 (2024); OR. REV. STAT. § 692.010 (2023); VT. STAT. ANN. tit. 18, § 5201 (2023); WASH. REV. CODE § 68.04.310 (2024).

17. Alex Brown, *More People Want a Green Burial, but Cemetery Law Hasn't Caught Up*, STATELINE (Nov. 20, 2019), <https://perma.cc/N5V3-JLJW>.

18. See William A. Drennan, *Buried with Property*, 76 RUTGERS L. REV. 497, 544 (2024) (“Perhaps the next U.S. revolution will be temporary burial, inspired by a realistic recognition of the process of human decomposition.”)

19. See JULIETTE O’KEEFFE, NAT’L COLLABORATING CTR. FOR ENV’T HEALTH, ALTERNATIVE DISPOSITION SERVICES: GREEN BURIAL, ALKALINE HYDROLYSIS AND HUMAN COMPOSTING 2 (2023), <https://perma.cc/SH7D-Z5PH> (pagination adjusted to match the PDF numbering) (reviewing the existing literature and noting that alternative disposition services mitigate the negative effects of traditional burial); see also *id.* at 6 (summarizing the benefits of green burial); *id.* at 8 (summarizing the benefits of alkaline hydrolysis); *id.* at 9 (summarizing the benefits of human composting).

environmentally impactful than casket burial, but it involves using natural gas to heat the cremation chamber to a temperature of 1400 to 1600 degrees Fahrenheit for several hours.²⁰ According to the Cremation Association of North America (CANA), the energy used in a typical cremation is approximately 2.4 million British thermal units.²¹ This is the equivalent of powering a 2,000 square foot American home for seven days.²²

Casket burial, which is still the second-most-used method of disposition in the United States, is often referred to as the “American way of death.”²³ It is a highly consumptive and therefore expensive method of disposition.²⁴ In addition to pushing for the legalization of alkaline hydrolysis and natural organic reduction, consumers are beginning to demand additional greener burial options.²⁵ Recently, voters in states like Massachusetts and Utah sought to repurpose land for environmental burial.²⁶ Such changes could allow citizens to bury their loved ones by means which prioritize minimal environmental impact and preserve the land and ecosystem in which the body is laid.²⁷

Funeral directors want to provide their clients with the goods and services that their clients want and need. The funeral industry has long recognized that American interest in greener funeral and disposition methods is expanding.²⁸ However, it should be noted that the funeral industry has an inherent conflict of interest on this point. Casket burial is the most expensive method of disposition and the method that funeral directors are educated and economically incentivized to provide.²⁹ All of the greener methods of disposition are

20. *Cremation Process*, CREMATION ASS’N N. AM. (2024), <https://perma.cc/7CTD-RYGE>.

21. *Environmental Impact of Cremation*, CREMATION ASS’N N. AM. (Oct. 21, 2020), <https://perma.cc/N73C-Y46V>.

22. *Id.*

23. See, e.g., Tanya D. Marsh, *Jessica Mitford Was Wrong*, 8 WAKE FOREST J.L. & POL’Y 111, 111 (2018).

24. *How Much Does a Casket Cost?*, MEM’L PLAN. (Feb. 16, 2023), <https://perma.cc/Z33K-DKY4> (estimating that the average casket costs between \$2,000 and \$5,000, depending on the number of features).

25. See, e.g., Domenic Poli, *Montague Cemetery Commission Dedicating Town’s First Green Burial Site*, GREENFIELD RECORDER (Apr. 25, 2024), <https://www.recorder.com/Montague-Cemetery-Commission-dedicating-town-s-first-green-burial-site-54879472>.

26. *Id.*; Toria Barnhart, *Oakley City Council Considers Proposal for Conservation Cemetery with Green Burials*, PARK REC. (April 25, 2024), <https://perma.cc/5V8K-UZFA>.

27. See Poli, *supra* note 25.

28. See *Statistics*, NAT’L FUNERAL DIRS. ASS’N (Sept. 24, 2024), <https://perma.cc/GCM5-KJ54>.

29. See, e.g., Eleanor Cummins, *How ‘Big Funeral’ Made the Afterlife so Expensive*, WIRED (Oct. 1, 2021), <https://www.wired.com/story/death-funeral-industry-lobbying-politics-health/>.

less consumptive and therefore less expensive.³⁰ As one industry publication advised, “Sure, every funeral director—and cemetery for that matter—would prefer that people have traditional funerals with a casket. But what would you rather have: A green burial or a direct cremation? Then, the question is not so easy to answer.”³¹ Indeed, it is clear that many in the funeral industry remain convinced that Americans need the American way of death.³²

Given the general marketplace trends towards green alternatives, there is a clear disconnect between the funeral industry and American consumers. The vast majority of cemeteries in the United States do not offer green burial.³³ At the same time, a majority of American consumers express interest in the disposition method.³⁴ By any economic metric, the supply for environmental burial options is vastly undeserving the current demand.

Furthermore, environmental alternatives to casket burial have flourished abroad for years.³⁵ The practices in other developed countries, which seek to hasten decomposition and minimize the land and resources dedicated for burial purposes, developed from a similar desire to protect the environment.³⁶ Particularly in recent years, these countries have begun to turn to greener burial practices to address the economic and environmental costs posed by casket burial.³⁷ In fact, in much of Western Europe, the default method of disposition is either cremation or what Americans would define as green burial or grave recycling.³⁸ Casket burial is practiced infrequently.³⁹ In the United Kingdom, for example, over 270 cemeteries are registered and designated for “natural burial” in a

30. See HOMESTEADERS LIFE CO., *Revenue Opportunities in a ‘Green’ World*, in THE FUNERAL DIRECTOR’S ECONOMIC SURVIVAL GUIDE 57 (2009).

31. *Id.*

32. *Id.*

33. See Alex Brown, *Eco-Friendly Cemeteries? More People Preferring ‘Green’ over Standard Burials*, WASH. POST (Nov. 30, 2019), https://www.washingtonpost.com/science/eco-friendly-cemeteries-more-people-preferring-green-over-standard-burials/2019/11/29/af9de6ce-0fc5-11ea-bf62-eadd5d11f559_story.html.

34. *Id.* (“[N]early 52 percent of Americans expressed interest in green-burial options.”). See generally Marsh & Pyatt, *supra* note 7.

35. Richard Yarwood et al., *Sustainable Deathstyles? The Geography of Green Burials in Britain*, 181 GEOGRAPHICAL J. 172, 173 (2015).

36. See, e.g., JENNIFER SAWAYDA, CTR. FOR ETHICAL ORGAN. CULTURES, THE GROWING POPULARITY OF GREEN FUNERALS (O.C. Ferrell et al. eds., 2011), <https://perma.cc/WC2L-3A4Z>.

37. *Id.*

38. Asher D. Colombo, *Why Europe Has Never Been United (Not Even in the Afterworld): The Fall and Rise of Cremation in the Cities (1876–1939)*, 41 DEATH STUD. 22, 22 (2017).

39. See *id.*

country less than 3 percent of the size of the United States.⁴⁰ Some of these burial sites are expressly reserved for natural burial while others sit alongside traditional cemeteries run by the government.⁴¹ In a number of countries in Western Europe, grave recycling is the norm. For example, in Germany graves are leased for a limited period of time, typically fifteen to thirty years.⁴² If the lease is not renewed, the grave is available for reuse.⁴³

Many countries have seen an increase in alternative burial practices in response to the ever-increasing costs of funeral services, meaning the financial benefits of green burial and grave recycling for American consumers could be significant.⁴⁴ According to the National Funeral Directors Association (NFDA), the median cost of a funeral in the United States is \$8,300 (excluding the cost of the burial plot, the opening and closing of the grave, and the grave marker), representing a significant cost for most families.⁴⁵ Even cremations, which are considered by many to be a cheaper option to traditional burial, can cost families significant sums of money.⁴⁶ Cremations with ceremonies at the funeral home, particularly if followed by burial or inurnment of the urn, can cost more than \$7,000, depending on the market.⁴⁷ By comparison, green burial in the United Kingdom costs the equivalent of \$1,600, roughly a quarter the cost of even the most basic casket burial in the country.⁴⁸

In sum, consumer interest in environmentally friendly product categories has grown tremendously when compared to their traditional alternatives, including the burial industry.⁴⁹ While market offerings for greener burial continue to lag behind consumer demand, the potential for change in the burial market is palpable. For now, the economic structure of the funeral industry, a structure heavily influenced by law, depends upon our current consumptive practices and will provide barriers to more environmentally sensitive alternatives.

40. Yarwood et al., *supra* note 35, at 173; see also *Country Comparisons—Area*, CIA WORLD FACTBOOK (2024), <https://perma.cc/6L5E-2GRK> (listing the size of both countries).

41. Yarwood et al., *supra* note 35, at 178.

42. Dan Blottenberger, *Final Resting Place Isn't Always Final in Germany*, STARS & STRIPES (June 29, 2010), <https://perma.cc/LQS6-NY7T>.

43. *Id.*

44. *Id.*

45. See *2023 NFDA General Price List Study Shows Inflation Increasing Faster than the Cost of a Funeral*, NAT'L FUNERAL DIRS. ASS'N (Dec. 8, 2023), <https://perma.cc/D2CY-MGYH>.

46. See *id.*

47. *Id.*

48. Cathy Suzuki, *What Is the Cost of a Green Burial?*, COSGROVE GREEN BURIAL MEADOW (May 12, 2023), <https://perma.cc/2LYZ-2BKT>.

49. See, e.g., HOMESTEADERS LIFE CO., *supra* note 30, at 57.

II. ENVIRONMENTAL IMPACTS OF CASKET BURIAL

Although it is intuitively obvious that casket burial, with its use of embalming, a hardwood or steel casket, and a steel or concrete vault, is consumptive, it is important to understand the environmental impacts of this method of disposition, particularly since the assumption that most people will choose this method of disposition is the foundation of the regulatory system governing the funeral industry in the United States.⁵⁰ The chemicals used, the natural resources consumed, and the landmass occupied by casket burial are significant.

A. *Embalming*

“Embalming is a process by which chemicals are used to . . . delay the decomposition of human remains.”⁵¹ “[S]ix categories of chemicals are used: preservatives, disinfectants, modifying agents (including anticoagulants and surfactants), dyes, perfuming agents, and vehicles.”⁵² Modern embalming was invented in the mid-1800s and has continued to evolve with a different mix of chemicals.⁵³ Embalming fluid is generally defined as follows:

a chemical substance which when given physical application (or injection) at the right time[,] at the right temperature[,] in the right quantity[,] of the right quality, strength dilution, concentration so as to receive a complete distribution in arteries, capillaries, and veins will diffuse (spread) from the capillaries to the lymph spaces into the intracellular spaces and to the cellular tissues and to unite with the cellular substances so as to normalize their water content[,] restore their colors[,] and so to fix and preserve them that they will be preserved against organized (bacterial) and unorganized (enzymatic) decompositions and will be preserved against other kinds of changes such as in water content; oxidation; from soil chemicals just so long as the after-care provides the necessary means to protect what has been embalmed.⁵⁴

The modern embalming process typically uses forty-five “toxic chemicals,” according to a leading embalming textbook.⁵⁵ Two of the

50. Marsh, *supra* note 8, at 16–21.

51. Tanya D. Marsh, *Ebola, Embalming, and the Dead: Controlling the Spread of Infectious Diseases*, 4 WAKE FOREST L. REV. ONLINE 43, 48 (2014); see also ROBERT C. MAYER, *EMBALMING: HISTORY, THEORY, AND PRACTICE* 5 (5th ed. 2012).

52. Marsh, *supra* note 51, at 48 n.39.

53. MAYER, *supra* note 51, at 469.

54. *Id.* at 34.

55. *Id.* at 71–74.

most prevalent chemicals in modern American embalming are formaldehyde and phenol.⁵⁶

Formaldehyde, a colorless gas when at ambient temperatures, can be lethal if ingested.⁵⁷ Exposure to eyes and skin can result in severe irritation and permanent damage.⁵⁸ Formaldehyde is highly irritating if inhaled, and chronic exposure has been associated with cancers of the lungs, nasopharynx, oropharynx, and nasal passages.⁵⁹ Phenol, also known as carbolic acid, is also toxic.⁶⁰ Ingestion of phenol, used as a preservative as well as a germicide, can lead to death from respiratory, circulatory, or cardiac failure.⁶¹ Chronic exposure to phenol can lead to a variety of symptoms, including damage to the liver and kidneys.⁶² Skin contact with phenol can cause nerve damage and gangrene.⁶³ “Profound coma and death have been reported to occur within 10 minutes following skin contact.”⁶⁴ Furthermore, despite the clear dangers presented by these two chemicals, there are no reporting requirements for embalmers to account for their choices in amounts and concentrations.⁶⁵

There are no published statistics on the number of human remains that are embalmed each year in the United States, although it is estimated to be less than 40% of all deaths (approximately 1.3 million).⁶⁶ Without this statistic, it is difficult to estimate the amount of embalming fluid that is used each year and then buried with human remains, or the amount of embalming fluid that is released into the sewer system or septic tanks during the embalming process. There are, however, some metrics that demonstrate the potential for environmental harm.

Embalming results in a significant quantity of wastewater, approximately 120 gallons, which includes three categories of liquid waste.⁶⁷ The first category of waste is blood.⁶⁸ The average adult

56. MAYER, *supra* note 51, at 127, 131; *see also* MARK HARRIS, GRAVE MATTERS: A JOURNEY THROUGH THE MODERN FUNERAL INDUSTRY TO A NATURAL WAY OF BURIAL 24 (2007).

57. *Medical Management Guidelines for Formaldehyde*, AGENCY FOR TOXIC SUBSTANCES & DISEASE REGISTRY (Oct. 21, 2014) <https://perma.cc/6SHF-GWAL>.

58. *Id.*

59. MAYER, *supra* note 51, at 69.

60. *See id.* at 70–71.

61. *Id.* at 53, 131.

62. *Id.* at 70.

63. *Id.*

64. *Id.*

65. *See generally* TANYA MARSH, THE LAW OF HUMAN REMAINS (2015).

66. *See* CREMATION ASS'N OF N. AM., CANA ANNUAL STATISTICS REPORT 15–16 (2023).

67. Marsh, *supra* note 51, at 50; *see also* MAYER, *supra* note 51, at 33.

68. *See* Marsh, *supra* note 51, at 50; *see also* MAYER, *supra* note 51, at 33.

American has ten pints (1.25 gallons) of blood.⁶⁹ During arterial embalming, that blood is replaced by embalming fluid.⁷⁰ The second category of waste is excess embalming fluid.⁷¹ Because embalming fluid is used to force blood out of the body, approximately three to four gallons of embalming fluid are used in a typical embalming.⁷² About half of that fluid remains in the body, and the rest is flushed into the wastewater stream.⁷³ The third category of waste is produced by the second phase of embalming—cavity embalming.⁷⁴ In this process, a trocar (essentially a slender pipe with a sharp point) is attached to a vacuum and then used to aspirate the organs in the body cavity.⁷⁵ “The trocar vacuums up the visceral material it liberates with each puncture: congested blood, accumulated fluid and gasses, fecal matter, urine, [semi-digested food], and masses of bacteria.”⁷⁶ These materials are discharged into the wastewater.⁷⁷

The untreated wastewater from funeral homes, including the waste from embalming, flows either into a septic system or a municipal sewer system.⁷⁸ Formaldehyde is organic and is broken down by sunlight or by bacteria and nitrogen in the soil.⁷⁹ It is curious that so little attention has been paid to the discharge of untreated embalming waste into the municipal sewer systems, particularly given the issues of combined sewer systems in many older American cities.⁸⁰ In a combined sewer system, the sanitary sewer lines and the stormwater lines combine to flow into the treatment plant.⁸¹ When heavy rains flood these lines, a combination of stormwater and untreated sewage can flood into streets and waterways.⁸²

Approximately 20% of funeral homes, particularly in rural areas, are served by a septic system rather than a sewer system.⁸³ Some jurisdictions have classified funeral home wastewater as “medical waste” and do not permit it to be discharged into septic tanks.⁸⁴

69. *Whole Blood and What It Contains*, AM. RED CROSS (2024), <https://perma.cc/ZS25-GDA5>.

70. *MAYER*, *supra* note 51, at 33.

71. *Id.*

72. *Id.* at 149.

73. *Id.*; *see also* Marsh, *supra* note 51, at 50.

74. *MAYER*, *supra* note 51, at 33.

75. *Id.* at 34.

76. *HARRIS*, *supra* note 56, at 23.

77. Marsh, *supra* note 51, at 50.

78. *Id.*

79. *MAYER*, *supra* note 51, at 129.

80. Marsh, *supra* note 51, at 50.

81. *Id.*

82. *Id.*

83. Carol L. Green, *Worry-Free Wastewater*, POLLUTION PREVENTION INFOHOUSE (May 4, 2008), <https://perma.cc/QA4L-X5MT>.

84. *See, e.g., Funeral Home Embalming Wastewaters Frequently Asked Questions*, MICH. DEP’T ENV’T, GREAT LAKES & ENERGY 1 (2019), <https://perma.cc/U58W-B6SC>.

Instead, they require that it be pumped into a holding tank and hauled to a sewage treatment plant.⁸⁵ However, despite the potential risks posed by formaldehyde, organizations such as the EPA have done little to manage or mitigate its use.⁸⁶ In fact, in a decision cheered by the National Funeral Directors Association as a “major victory,” the EPA has determined that formaldehyde is not regulated by the Toxic Substances Control Act (TSCA), thereby encouraging the continued unrestrained use of the chemical.⁸⁷

In addition to the embalming fluid discharged as wastewater, it is estimated that approximately 827,000 gallons of the fluid are buried every year in the United States.⁸⁸ Part of that fluid is from arterial embalming, and part is from cavity embalming.⁸⁹ After the trocar is removed, the cavity is flooded with a strong concentration of formaldehyde and phenol.⁹⁰

Embalming can also pose dangers to funeral service workers. A study reported in the *Journal of the National Cancer Institute* concluded that embalmers have more than eight times greater risk of leukemia, and a study reported in the *Journal of Neurology, Neurosurgery and Psychiatry* concluded that embalmers have a three times higher risk of amyotrophic lateral sclerosis (ALS).⁹¹

B. *Protective Burial in a Casket*

The modern American norm for casket burial is to encase the embalmed body in a casket and a grave liner or vault.⁹² An industry publication defines a casket as follows:

a case or receptacle in which human remains are placed for protection, practical utility, and a suitable memory picture: any box or container of one or more parts in which a dead human

85. *Id.* at 2–3.

86. For example, “embalming fluids” are exempt from the Federal Insecticide, Fungicide, and Rodenticide Act. 40 C.F.R. § 152.25(c)(1) (2024). See also *Facts About Formaldehyde*, EPA (Sept. 11, 2024), <https://perma.cc/H3QU-DMP3> (summarizing the EPA’s current regulations pertaining to formaldehyde).

87. See *Major Victory for NFDA and Funeral Service: U.S. EPA Finds Formaldehyde Used for Embalming Is Not Regulated Under the Toxic Substances Control Act*, NAT’L FUNERAL DIRS. ASS’N (Mar. 15, 2024), <https://perma.cc/L5E9-VSBX>.

88. See *What Is Conventional Burial*, FUNERAL CONSUMER ALL. STANISLAUS/MERCED CNTYS. (2024), <https://perma.cc/3YHF-HECM>.

89. MAYER, *supra* note 51, at 33.

90. HARRIS, *supra* note 56, at 24.

91. Lee Webster, *Green Burial by the Numbers*, GREEN BURIAL COUNCIL (2016), <https://perma.cc/43V3-X3TN>; LEE WEBSTER, CHANGING LANDSCAPE: EXPLORING THE GROWTH OF ETHICAL, COMPASSIONATE, AND ENVIRONMENTALLY SUSTAINABLE GREEN FUNERAL SERVICE 100 (2017).

92. *Traditional Burial*, FUNERAL CONSUMERS ALL. (2024), <https://perma.cc/A9UF-93GD>.

body is placed prior to interment, entombment, or cremation which may or may not be permanently interred, entombed or cremated with the dead human remains.⁹³

Until the twentieth century, American coffins and caskets were generally made of wood and crafted by the family or a local tradesman.⁹⁴ Casket manufacturers began regional production in the late 1800s, but wood was still the primary medium for caskets until the 1960s.⁹⁵ Since then, American caskets have been primarily made of metal,⁹⁶ ranging from the heaviest sixteen-gauge steel to the lightest twenty-two-gauge steel.⁹⁷ Sixteen-gauge steel is approximately one-sixteenth of an inch thick, and twenty-gauge steel is one-twentieth of an inch thick.⁹⁸ By way of comparison, most automobile panels are made of twenty-gauge steel.⁹⁹

It has been estimated that approximately 90,000 tons of steel are used annually in the production of American caskets.¹⁰⁰ An industry publication explains why the American public has shifted from caskets made of wood to caskets made of metal: “The primary issue with wooden caskets is that they deteriorate with time. A wood casket will decompose after a few years of burial. Choosing a metal casket ensures that your loved one’s remains are preserved for the long term.”¹⁰¹

Before the twentieth century, Americans expected that human remains interred in the earth would naturally decompose.¹⁰² The social norm with respect to casket burial is now to prevent or delay that decomposition in any way possible, including by entombment in a metal box.

93. RALPH L. KLICKER, FUNERAL DIRECTING AND FUNERAL SERVICE MANAGEMENT 113 (2008).

94. *The Casket Industry*, CASKET & FUNERAL SUPPLY ASS’N AM. (2024), <https://perma.cc/S2TJ-3L3D>.

95. *See id.*

96. *See id.*

97. *Casket Design*, CASKET & FUNERAL SUPPLY ASS’N AM. (2024), <https://perma.cc/K7MM-R3V8>.

98. 15 U.S.C. § 206 (setting the universal standard for different gauges of sheet metal in the United States); *see also* Klicker, *supra* note 93, at 117 (“On an average, 19 gauge is 16% thicker than 20 gauge and will last 29% longer when buried in soil. Eighteen gauge is 33% thicker than 20 gauge and will last 58% longer. 16 gauge is 67% thicker than 20 gauge and will last 133% longer.”).

99. Zeeshan, *Unraveling the Insights into the Right Gauge Sheet Metal for Auto Body Repairs*, DR. RALPH’S AUTO. SERVS. CTR. (Dec. 8, 2023), <https://perma.cc/6647-BNKC>.

100. *Green Burial & Other Environmentally Friendly Choices*, FUNERAL CONSUMERS ALL. (2024), <https://perma.cc/FB8P-GWTE>.

101. George Darte, *The Pros and Cons of Wooden Caskets*, GEORGE DARTE FUNERAL CHAPEL INC. (Nov. 25, 2022), <https://perma.cc/YG7H-5HPB>.

102. Brian Walsh, *When You Die, You’ll Probably Be Embalmed. Thank Abraham Lincoln for That*, SMITHSONIAN MAG. (Nov. 1, 2017), <https://perma.cc/73VN-D989>.

Still, as of the year 2000, nearly 20 percent of caskets were made of hardwoods, including mahogany, walnut, cherry, maple, and oak.¹⁰³ It is estimated that approximately 45 million board feet of lumber are consumed for American caskets each year.¹⁰⁴ That is sufficient lumber to build nearly 2,750 homes.¹⁰⁵ What's more, while some of the woods used for caskets are sustainably harvested, others are not.¹⁰⁶ Mahogany, for example, is used in some of the most expensive caskets.¹⁰⁷ Mahogany trees grow sporadically, which means that loggers destroy twenty-eight trees for every mahogany tree they harvest.¹⁰⁸

Caskets may be either "gasketed" or "non-gasketed."¹⁰⁹ A gasket is a molded piece of rubber that fits between the lid and the body of the casket.¹¹⁰ The purpose of a gasketed casket is to provide more "protection" for the remains from water and soil.¹¹¹ Non-gasketed caskets can be closed with various mechanisms including latches, threaded fasteners, and chemical compounds.¹¹²

While a gasketed casket buried in the ground may seem harmless environmentally, the reality paints a different picture. Not only does permanent casket and vault burial plainly use a vast number of resources, but it is also unclear how well those resources truly protect the surrounding soil and groundwater from the chemicals used in embalming.¹¹³ There are few publicly available studies on the environmental impact of casket burial, including the impact on soils and the water table.¹¹⁴ A 2024 limited study of one cemetery in

103. *Caskets*, ENCYCLOPEDIA.COM (2024), <https://perma.cc/7C8L-GX55>.

104. *FAQ*, NATURE'S CASKET (2024), <https://perma.cc/T5W7-FQJB>.

105. *See How Many Trees Does It Take to Build a House?*, HOUSE DESIGNERS (2024), <https://perma.cc/8Y9K-QGJA>.

106. *Case Study: Mahogany*, WORLD RAINFORESTS (June 1, 1999), <https://perma.cc/M3JZ-ZY7F>.

107. *See Solid Wood Caskets*, TRUSTED CASKETS (2024), <https://perma.cc/FT4J-UUX4>.

108. *See Case Study: Mahogany*, *supra* note 106.

109. Joe Owner, *Non Gasketed vs Gasketed Caskets*, CASKET EMPORIUM (Nov. 10, 2022), <https://perma.cc/C4XH-CY2H>.

110. *Id.*

111. *Id.*

112. *Caskets and Vaults Explained*, YOUNG'S DAUGHTERS FUNERAL HOME & BEREAVEMENT CARE (2024), <https://perma.cc/2T4B-6L6E>.

113. Mark Shelvock et al., *Beyond the Corporatization of Death Systems: Towards Green Death Practices*, 30 ILLNESS, CRISIS & LOSS 640, 649–50 (2021), <https://perma.cc/F52Z-R4MH>.

114. *See* Patrick Richardson et al., *The Impact on Environmental Health from Cemetery Waste in Middle Tennessee*, INT. J. ENV'T RES. & PUB. HEALTH, Mar. 2024, at 3, <https://doi.org/10.3390/ijerph21030267> ("Much of the available literature that exists on cemetery waste examines locations outside of the United States. The studies that do exist were conducted in Michigan and Ohio and only looked at pathogen or mineral contamination of the soil, not chemical contamination.")

Tennessee collected six soil samples and two groundwater samples and found, at most, negligible evidence of formaldehyde and no evidence of arsenic.¹¹⁵ While that is good news, the authors of the study did not report any information about the types of caskets or vaults used in the cemetery, or even the use of embalming fluids in the burials near the sample sites.¹¹⁶ More study is needed.

III. ENVIRONMENTALLY FRIENDLY METHODS OF BURIAL

Given the environmental harms posed by casket burial, it is no wonder that American consumers are pushing for greener options. Additionally, when considering an ever-growing population and an ever-diminishing supply of available land, the rationale behind a less consumptive and denser burial practice makes even more sense.¹¹⁷ While emerging methods of disposition such as alkaline hydrolysis and natural organic reduction are greener than casket burial, these methods reduce the dead body to ashes (in the case of alkaline hydrolysis) or soil (in the case of natural organic reduction).¹¹⁸ Some consumers prefer burial for cultural and/or religious reasons, or even because of simple personal preference, but want greener burial options.¹¹⁹ There are two greener burial strategies that could be adopted more broadly in the United States: green burial and grave recycling.

A. *Green Burial*

Green burial, also known as natural or woodland burial, is one of the most common forms of environmentally conscious burial.¹²⁰ Generally speaking, green burial involves “caring for the dead with minimal environmental impact that aids in the conservation of natural resources, reduction of carbon emissions, protection of worker health, and the restoration and/or preservation of habitat.”¹²¹ These practices can take many forms, but all share the common goal of eliminating the harmful processes used in traditional burial.¹²²

Green burial seeks to remove environmentally damaging practices at each step of the death care process by ultimately encouraging the natural decomposition of the deceased and their

115. *Id.*

116. *See generally id.*

117. *See* SAWAYDA, *supra* note 36.

118. *Green Burial & Other Environmentally Friendly Choices*, *supra* note 100.

119. *See* Yogu Kanthiah, *World Religions and Their Views on Cremation*, HOLLYWOOD FOREVER (Jan. 10, 2024), <https://perma.cc/BSJ4-D254>.

120. *Natural & Green Burials*, NAT. BURIAL CO. (2024), <https://perma.cc/ZH4M-KJEQ>.

121. *Overview*, GREEN BURIAL COUNCIL (2024), <https://perma.cc/F7J8-D26W>.

122. *Id.*

burial vessel (if one is used at all).¹²³ In addition, this form of burial allows the land to return to its natural state.¹²⁴ This is accomplished by “forgoing embalming, skipping concrete vaults, rethinking burial containers and maintaining and protecting natural habitat.”¹²⁵ This is distinct from casket burial, which seeks to maintain a particular plot in perpetuity for the memorialization of the deceased.¹²⁶

For example, green burial typically involves no casket or a casket made of natural, biodegradable materials.¹²⁷ There are many alternatives currently available in the United States, including caskets made of pine, woven seagrass, willow, and bamboo.¹²⁸ This reduces the environmental impact of manufacturing caskets and also prevents otherwise harmful chemicals from leaching into the soil. In addition, green burial does away with vaults and grave liners used in traditional burial, as these seek to “impede natural decomposition and introduce non-biodegradable materials into the earth.”¹²⁹ The practice also seeks to avoid monuments or other grave markers which are unnatural to the area.¹³⁰ Instead, native stones, trees, or even GPS markers are used to allow families to find and pay homage to their loved ones.¹³¹

Green burial is generally legal in every U.S. jurisdiction because the state statutes that define burial do so broadly.¹³² For example, Maryland defines “interment” as “all final disposition of human remains or pet remains, including: (1) earth burial; (2) mausoleum entombment; and (3) niche or columbarium interment.”¹³³ There is no law which requires embalming (except in limited circumstances), a casket, or a vault.¹³⁴ In other words, there is no law which requires that burial means “casket burial.” However, the law gives wide latitude to cemeteries to enact their own rules and regulations. There is no prohibition on cemeteries enacting rules which require embalming, caskets, and/or vaults.¹³⁵ In fact, many cemeteries have

123. Sonya Vatomsky, *Thinking About Having a ‘Green’ Funeral? Here’s What to Know*, N.Y. TIMES (Mar. 22, 2018), <https://www.nytimes.com/2018/03/22/smarter-living/green-funeral-burial-environment.html>.

124. *Id.*

125. *Id.*

126. TANYA D. MARSH & DANIEL GIBSON, *CEMETERY LAW: THE COMMON LAW OF BURYING GROUNDS IN THE UNITED STATES* 208 (2015).

127. *Id.*

128. *See, e.g., Store*, NAT. BURIAL CO. (2024), <https://perma.cc/647M-4ZHC>.

129. *See Natural Burial FAQ*, GREEN BURIAL COUNCIL (2024), <https://perma.cc/H2MP-59FY>; *see also* Brown, *supra* note 17.

130. GREEN BURIAL COUNCIL, *supra* note 129.

131. *Id.*

132. Brown, *supra* note 17.

133. MD. CODE ANN., BUS. REG. § 5-101(l) (2023).

134. *See generally* MARSH, *supra* note 65.

135. *See generally* MARSH & GIBSON, *supra* note 126, at 3.

required vaults, which prevent grave collapse and ensure a smooth surface for mowing, for most of the twentieth century.¹³⁶

Cemeteries, many of which are owned by religious organizations or nonprofit organizations, are typically permitted by law to sell vaults or grave liners and monuments like tombstones.¹³⁷ Green burial, of course, does not involve these items. Therefore, cemeteries are economically disincentivized from offering green burial options. This is a particularly acute issue because the rate of cremations is expected to continue to rise while the rate of casket burials is expected to continue to fall.¹³⁸ Cemeteries incur expenses to maintain landscaping, infrastructure, and sometimes monuments.¹³⁹ As their income declines along with the burial rate, they are more economically stressed and more acutely discouraged from offering green burial.

There is evidence that interest in green burial exceeds supply.¹⁴⁰ Green burial options may be limited by the economic factors noted above or by an allegiance by cemeteries and local leaders to casket burial. By way of example, efforts to open a green cemetery in 2023 in Carlton County, Minnesota, were stymied by neighbors and policymakers.¹⁴¹ Loving Earth Memorial Gardens, the proposed green burial cemetery at the heart of the dispute, ultimately never received its permit approval from county commissioners.¹⁴² The state didn't stop there either, for the Minnesota legislature placed a two-year moratorium on any new cemeteries offering green burials.¹⁴³ The state's position was informed by the criticisms of church leaders against green burial and the skepticism of neighbors to the proposed site of Loving Earth Memorial Gardens.¹⁴⁴ The purpose of the ban, according to the Minnesota legislature, is to allow time for research into the environmental impacts of green burial.¹⁴⁵ However, the moratorium poses significant issues not only for green burial

136. *Id.*

137. See Douglas A. McIntyre, *The Ten Companies That Control the Death Industry*, 24/7 WALL ST., <https://247wallst.com/investing/2011/01/13/the-ten-companies-that-control-the-death-industry/> (Apr. 3, 2020).

138. See *U.S. Cremation Rate Is Projected to Climb to 61.9% in 2024*, NAT'L FUNERAL DIRS. ASS'N (July 25, 2024), <https://perma.cc/J8E6-YCUE>.

139. Janet Nguyen, *Who Pays to Maintain Old Graves at a Cemetery?*, MARKETPLACE (Nov. 1, 2024), <https://perma.cc/QDG4-Y994>.

140. See Dan Shaeffer, *The Future of Green Burial*, CREMATION.GREEN (Sept. 14, 2020), <https://perma.cc/TBX8-T278>.

141. Walker Orenstein, *Minnesota Paused 'Green Burials' Because of a Bitter Fight over a Cemetery in Carlton County. It Has Led to Questions of Religious Freedom*, MINNPOST (July 5, 2023), <https://perma.cc/WZC5-5P22>.

142. *Id.*

143. *Id.*

144. *Id.*

145. *Id.*

advocates but also for Minnesotans whose religiously-informed burial practices are similar to green burial in a number of ways.¹⁴⁶

The issue faced by Loving Earth highlights a key issue with green burial. To many Americans, the practice represents a radical departure from the traditional way of death and brings with it a myriad of unknowns. Regardless of laws and industry opposition, practicing green burial in America will continue to be stalled by this cultural resistance if left unaddressed. Many churches, like those that spoke out in Minnesota, cite tradition and aesthetics as reasons why green burials will not be allowed on their grounds.¹⁴⁷ Furthermore, as is the case with anything new, the potential new risks are unknown. Without a system of rules and regulations in place to manage the emerging green burial practice, many communities are resistant to allowing it in the first place.¹⁴⁸

Additional resistance comes from the funeral industry and the law itself, which presumes that casket burial is the default method of disposition in the United States.¹⁴⁹ Embalming is required by law only in limited circumstances, but the occupational licensing laws governing the funeral industry strongly institutionalize the practice.¹⁵⁰ It is also the only aspect of modern burial that is beyond the skill set of untrained laymen and the only activity that requires special equipment and training.¹⁵¹

State statutory law created an institution of embalming in a number of ways. All states forbid funeral directing without a license.¹⁵² Funeral directing is generally defined by state statutes as including the following services: removing the corpse from the place of death or coroner's office, preparing the remains (washing, embalming, dressing, and applying cosmetics), arranging the logistical details of the funeral and final disposition (which could include a range of services such as hosting a viewing, coordinating with the crematory and/or cemetery, and placing an obituary in the paper), and selling related products and services to the family.¹⁵³

146. *Id.*

147. Sequola Collins, *Black Churches and Green Funerals*, MEDIUM (May 18, 2021), <https://perma.cc/822G-UKK3>.

148. *See id.*

149. HOMESTEADERS LIFE CO., *supra* note 30, at 57.

150. *See* 16 C.F.R. § 453.3 (2024); GARY LADERMAN, REST IN PEACE: A CULTURAL HISTORY OF DEATH AND THE FUNERAL HOME IN TWENTIETH-CENTURY AMERICA 7 (2003).

151. *Id.* at 5–6.

152. INT'L CONF. OF FUNERAL SERV. EXAMINING BDS., REGULATIONS IN FUNERAL SERVICE LICENSING 4–22 (2023), <https://perma.cc/F3F5-7YXM>; Tanya D. Marsh, *Colorado to Tighten Regulations on Funeral Homes After Multiple Scandals—Here's What This Means for Families*, CONVERSATION (June 5, 2024), <https://perma.cc/7ABF-RCRP>.

153. *See, e.g.*, FLA. STAT. § 497.372 (2023).

The funeral industry desired licensure for good reason. Once funeral directors are licensed, many states treat them as quasi-public officials, with the (sometimes sole) power to issue transportation and final disposition permits.¹⁵⁴ The widespread requirements that funeral directors be trained embalmers, that funeral directors complete lengthy apprenticeships before licensure, or that licensed funeral homes have embalming rooms, are high barriers to entry that further institutionalize a model that emphasizes embalming.¹⁵⁵

The institutionalization of embalming, coupled with a less-than-unanimous reception to green burial, has erected a difficult barrier before green burial can flourish and meet the demand of green-conscious Americans. In order to address that obstacle, antiquated funeral laws must be challenged and should now be changed to accommodate the preferences of the modern American customer. To do so, lawmakers need concrete proof of the environmental benefits of green burial. Furthermore, both the industry and state governments should adopt certifications which advertise and promote green or natural burial sites.

1. *Mandate Environmental Impact Studies on Green and Casket Burial*

“Overall,” one report on green burial noted, “there is a relative scarcity of scientific research concerning the potential impact of cemeteries on human health and the environment.”¹⁵⁶ As is commonplace for major federal actions, environmental impact studies (EIS) are used to argue for or against the damage posed by a proposed project or change.¹⁵⁷ In light of the resistance against green burial pushed forth by some local lawmakers, a comprehensive study should be conducted comparing the environmental impact of green burial versus casket burial. It would be most efficient if the federal government funded national studies, rather than relying upon states to do so. The FTC’s Funeral Rule gives customers “the right to choose the funeral goods and services they want,” but such a statement is meaningless if states like Minnesota are capable of restricting customers’ access to green burial entirely.¹⁵⁸ An EIS that demonstrates the clear environmental benefits of green burial over

154. *Vaughan v. State Bd. of Embalmers & Funeral Dirs.*, 82 S.E.2d 618, 621 (Va. 1954).

155. INT’L CONF. OF FUNERAL SERV. EXAMINING BDS., *supra* note 152, at 4–22.

156. Kevin Koepenick, *Environmental Health Implications of “Green Burials,”* BALT. CNTY. DEP’T ENV’T PROT. & SUSTAINABILITY 1, 2 (Nov. 7, 2018), <https://perma.cc/SKZ2-GWTE>.

157. 40 C.F.R. § 1502.1(a) (2024) (“The primary purpose of an environmental impact statement . . . is to serve as an action-forcing device by ensuring agencies consider the environmental effects of their action in decision making.”).

158. *See Funeral Rule*, FED. TRADE COMM’N (2024), <https://perma.cc/AB7R-ZK9V>.

traditional burial could, at the very least, eliminate a reason legislators have available to further stifle the growth of green burial.

2. *Promote and Incentivize Eco-Rating Standards in the Funeral Industry*

Local governments should implement green burial standards in the same manner that some are mandating green building standards. The United States Green Building Council, a non-governmental entity, introduced the Leadership in Energy and Environmental Design (LEED) Green Building Rating System in 1998.¹⁵⁹ The LEED system allows projects to earn “points” for employing various sustainable practices, incorporating certain materials, or increasing energy efficiency.¹⁶⁰ Based on the number of points earned, a project could potentially be rated LEED Platinum, Gold, Silver, or Certified.¹⁶¹ Many private organizations have voluntarily adopted LEED as a benchmark.¹⁶² In addition, some local governments have integrated LEED standards into their building or zoning codes.¹⁶³ For example, a statute may require buildings owned or occupied by the municipality to have achieved a certain level of LEED certification.¹⁶⁴ A few cities, including Boston, Chicago, Dallas, Houston, Washington, D.C., and Los Angeles, have even required private projects constructed in the city to meet LEED standards.¹⁶⁵

The Green Burial Council (GBC), a nonprofit organization, was established in 2005 in order to “encourage environmentally sustainable death care and the use of burial as a new means of protecting natural areas.”¹⁶⁶ Using a similar but less complex mechanism as LEED, GBC has promulgated standards for cemeteries, funeral homes, and burial products.¹⁶⁷ For example, GBC certifies hybrid cemeteries, natural burial grounds, and conservation

159. *Mission and Vision*, U.S. GREEN BLDG. COUNCIL (2024), <https://perma.cc/72QZ-M9CT>.

160. *LEED Rating System*, U.S. GREEN BLDG. COUNCIL (2024), <https://perma.cc/E8P4-Q42Q>.

161. *Id.*

162. *Id.*

163. Anthony DeLaPaz, *LEED Locally: How Local Governments Can Effectively Mandate Green Building Standards*, 2013 U. ILL. L. REV. 1211, 1213 (2013).

164. *Id.* at 1228.

165. Katherine A. Trisolini, *All Hands on Deck: Local Governments and the Potential for Bidirectional Climate Change Regulation*, 62 STAN. L. REV. 669, 706 (2010).

166. See Hunter Marshall, *Defending the Earth, Even After Death: The Green Burial Movement*, YES! MAG. (Mar. 21, 2014), <https://perma.cc/X7TR-EYRY>; see also *History of GBC*, GREEN BURIAL COUNCIL (2023), <https://perma.cc/D9XH-FFGG>.

167. *Green Burial Council Cemetery Certification Standards*, GREEN BURIAL COUNCIL (2019), <https://perma.cc/F2X2-ZGUQ>.

burial grounds.¹⁶⁸ A conservation burial ground differs from a natural burial ground in that it includes “management of the land with defined conservation goals, and operation on protected land affiliated in some way with a land trust or other conservation entity.”¹⁶⁹

To receive GBC certification as a natural burial ground, a cemetery must meet criteria including the following:

- “Accept for burial only decedents that have not been embalmed or those embalmed only with GBC-approved, nontoxic chemicals.”
- “Prohibit the use of a vault (partial, inverted or otherwise), a vault lid, concrete box, slab or partitioned liner in the burial plot.”
- “[Require a]ll burial containers, shrouds, and other associated products [to be] made only of natural, biodegradable materials.”
- “Limit the type and size of memorial markers so that they do not impair the ecological conditions and aesthetic of the natural cemetery landscape.”¹⁷⁰

B. Grave Recycling

The certification requirements for natural and conservation burial grounds also limit the density of graves. Natural burial grounds may not have more than 500 burials per acre.¹⁷¹ Conservation burial grounds may not have more than 300 burials per acre.¹⁷² Burial density is further limited for areas deemed to be environmentally sensitive.¹⁷³ This is much lower density than traditional cemeteries, which typically have between 800 and 1,200 burials per acre.¹⁷⁴ Green burials may therefore solve some of the environmental challenges of casket burial, but they do not address the compression of real estate dedicated to burial purposes. Grave recycling may offer solutions to that aspect of the problem.

The prevailing norm for burial in the United States is a single body in a single grave for perpetuity.¹⁷⁵ This norm is enormously consumptive of land. In contrast, Christians in Western Europe have long practiced grave recycling, or multiple burials in a single grave.¹⁷⁶

168. *Id.*

169. *Frequently Asked Questions About Conservation Burial Grounds*, GREEN BURIAL COUNCIL (2019), <https://perma.cc/V2EP-TZTF>.

170. *Green Burial Council Cemetery Certification Standards*, *supra* note 167.

171. *Id.*

172. *Id.*

173. *Id.*

174. Valerie Capels & Wayne Senville, *Planning for Cemeteries*, 64 PLAN. COMM’RS J. 1, 1 (2006), <https://perma.cc/A9FZ-THC3>.

175. Tanya D. Marsh, *Rethinking the Law of the Dead*, 48 WAKE FOREST L. REV. 1327, 1336, 1338 (2013).

176. Rafaela Ferraz, *Cemetery Overcrowding Is Leading Europe to Recycle Burial Plots*, TALKDEATH (July 18, 2018), <https://perma.cc/9DJM-3JWL>; Robyn S.

For example, in Switzerland and Sweden, graves are “rented” for a period of twenty-five years.¹⁷⁷ In Germany, grave rentals are for a period of fifteen to thirty years.¹⁷⁸ After that period is over, the decomposed human remains are typically placed in a communal area at the cemetery.¹⁷⁹ In Vienna, Austria, the default grave option is the *familiengrüb* or “family grave.”¹⁸⁰ These graves hold up to four bodies each.¹⁸¹ Because of this density of burials and the use of grave recycling, *Zentralfriedhof*, Vienna’s Central Cemetery, has approximately three million burials in only 330,000 graves and crypts.¹⁸² Vienna’s cemeteries combine this denser burial practice with a number of natural burial options.¹⁸³

There are two main methods of grave recycling. Both begin with a lease of a grave for a limited period of time. In the United Kingdom, the first method is commonly referred to as “lift and deepen.”¹⁸⁴ At the expiration of the lease term, the remains are removed and buried deeper, and the grave is reused.¹⁸⁵ In the second method, when the lease term expires, the remains are removed from the grave and placed in a communal ossuary located at the cemetery.¹⁸⁶ This second method was commonly used by Christian burial grounds for most of the past two millennia.¹⁸⁷

Even though cemeteries during the colonial period often practiced grave recycling—and cemeteries in some places, such as New Orleans, still do—there are significant legal barriers to broadly adopting grave recycling in the United States.¹⁸⁸ The American norm of the dedication of a single grave to an individual in perpetuity is a marked departure from modern and historical European Christian

Lacy, *Temporary Graves—Burial in Luxembourg & the Transmortality Conference 2017*, SPADE & GRAVE (June 6, 2017), <https://perma.cc/H9PW-C5GV>.

177. Ferraz, *supra* note 176.

178. *Id.*

179. *Id.*

180. *Sarggräber [Coffin Graves]*, FRIEDHÖFE WIEN (2024), <https://perma.cc/722N-LFUS>.

181. *Friedhofsentgelte der Friedhöfe Wien GmbH [Cemetery Fees of Friedhöfe Wien GmbH]*, FRIEDHÖFE WIEN (Jan. 1, 2024), <https://perma.cc/BM4U-UCA2>.

182. *The Zentralfriedhof Cemetery*, VISITING VIENNA (Feb. 8, 2024), <https://perma.cc/CBA6-MFTF>.

183. *Naturgräber [Natural Graves]*, FRIEDHÖFE WIEN (2024), <https://perma.cc/5LB9-5Q6T>.

184. Ferraz, *supra* note 176.

185. *Id.*

186. *Id.*

187. Alex Mar, *Rent-a-Grave*, SLATE (Feb. 28, 2011), <https://perma.cc/8XCL-JPNV>.

188. JACQUELINE LEWIS, ON DEATH AND DYING § 4.4 (2022) (ebook), <https://perma.cc/46FV-7V69>.

norms, but it is deeply entrenched in U.S. law.¹⁸⁹ For example, in 1927 an Iowa court stated that “a due respect for the memory of the dead and for the feelings of the living friends and relatives requires that when a body is once interred it shall so remain unless extreme necessity demands its disinterment.”¹⁹⁰

Implementing grave recycling in the United States would require significant changes in the law. First, laws would need to be reformed to permit easier disinterment of bodies. Grave recycling, whether remains are reburied deeper or moved to a communal ossuary, requires bodies to be routinely disinterred. Current statutory law typically requires substantial reasons for disinterment.¹⁹¹ Under current statutory law, grave recycling is impractical.

Cultural changes would also be required. While the practice of grave recycling is normal in many European countries, Americans are used to purchasing the right to be buried in perpetuity. Even London, which has only recently implemented the practice, only authorized graves older than seventy-five years to be reused for the express reason that reusing graves any younger would likely offend both the living and the dead.¹⁹² No studies have been conducted to measure interest in grave recycling in the United States, but such work would help convince state legislatures that the idea has merit.

Grave recycling will not appeal to everyone, nor will it solve all environmental problems related to burial. It will not, for example, serve the same conservation goals as conservation burial grounds because the land dedicated to burial purposes will be constantly disturbed. However, it may be a piece of the puzzle for greening the American way of death.

CONCLUSION

If America is truly moving towards an era of sustainability and environmentalism, it is important to look at both the beginning and the end. Green burial and grave recycling, among other newly emerging methods of disposition, are far more environmentally sustainable than casket burial. Practices such as green burial and grave recycling serve the American public’s growing preference for

189. Tanya D. Marsh, *When Dirt and Death Collide Legal and Property Interests in Burial Places*, 30 PROB. & PROP. 59, 61 (2016); Marsh, *supra* note 175, at 1328, 1331, 1334, 1336, 1338.

190. *King v. Frame*, 216 N.W. 630, 633 (Iowa 1927).

191. Marsh, *supra* note 189.

192. Helen Kreft, *Church to Reuse Old Graves as It Struggles for Burial Space*, STAFFORDSHIRE LIVE (Mar. 6, 2018), <https://perma.cc/UB8V-SJK4>; London Authorities Act 2007, ch. 2, § 74 (allowed for London Burial Authorities to reclaim and reuse graves after 75 years); Burial Act 1857, 20 & 21 Vict. ch. 81, § 25 (Eng.) (amended 2015) (gave the Church of England permission to reuse graves); Gary Burks, *We’re Running Out of Space to Bury Our Dead—It’s Time to Reuse Graves*, METRO (Jul. 3, 2019), <https://perma.cc/869R-MMN4>.

greener goods while also providing more intimate and financially affordable methods of disposition. However, significant legal, economic, and cultural barriers will need to be overcome in order to make them viable within the United States.