

## **March 4.pdf**

Uploaded by: Alan Goldsmith

Position: FAV

March 4, 2024

The Honorable Brian Feldman, Chair  
Education, Energy and Environment Committee

The Honorable Joseline A. Pena-Melnyk, Chair  
Health and Government Operations Committee

Maryland General Assembly  
State Circle  
Annapolis, Maryland 21401  
RE: HB 1168 / SB 1028 – The Green Death Care Options Act

Dear Chair Feldman and Chair Pena-Melnyk:

I am writing to request that your committees favorably report the Maryland Green Death Care Options Act. I want to limit the environmental impact of the disposal of my body after my death, and to that end, I would like to have the options of natural organic reduction and water cremation. Thank you for your consideration of my request.

Sincerely,

Alan Goldsmith  
1220 East-West Highway  
Apt. 1203  
Silver Spring, MD 20910

# Senator Elfreth.pdf

Uploaded by: Ann Powers

Position: FAV

ANN POWERS

15 HORN POINT COURTS

ANNAPOLIS, MARYLAND 21403-3324

March 1, 2024

Dear Senator Elfreth:

I understand that bills (HB 1168/SB 1028) for the “Green Death Care Options Act” are being reviewed in the House and Senate Committees. I write to express my strong support for these measures, and hope that you too will support them and encourage their passage.

As we face the ravages of a warming earth it is incumbent on all of us to pursue measures to reduce our carbon footprint. Funeral practices like cremation and embalming have a profound impact on the environment. Conventional burial consumes valuable land, which especially struck home to me on a recent trip to New York, passing acres of cemeteries. It also pollutes the soil and contributes to climate change through the resource-intensive manufacture and transport of caskets, headstones and grave liners.

Additionally, burial costs can be steep and pose a heavy burden on families of limited means. Green burials can provide a less expensive burial option.

Please help to bring the Act into effect.

Yours truly,

*Ann Powers*

443.837.6063 H  
203.644.2093 M  
apowers@snet.net

38°58'19"N 76°28'31"W

**FCAME testimony for SB1028 3.5.2024.pdf**

Uploaded by: Barbara Blaylock

Position: FAV



# *Funeral Consumers Alliance of Maryland and Environs*

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*Protecting a consumer's right to a meaningful, dignified, and affordable funeral.*

**Senate Committee on Education, Energy, and the Environment.** Maryland General Assembly  
**Testimony on: SB1028 – Green Death Care Options Act**

**Position: Support**      Hearing Date March 5, 2024

Thank you for the opportunity to provide testimony from the Funeral Consumers Alliance of Maryland and Environs (FCAME) in support of Senate Bill 1028, which would legalize alkaline hydrolysis and natural organic reduction (NOR) in Maryland.

Alkaline hydrolysis and natural organic reduction are two relatively new methods for caring for the dead. The first, also referred to as “water cremation,” involves reducing the body to a small volume of pulverized bones - similar to the ashes produced by flame cremation - by using water, alkali, moderate heat, and agitation in a closed container for a number of hours. This process utilizes significantly less energy than conventional, or “flame” cremation. The body tissue is broken down into simple molecules and washed away leaving only bones that are then finely ground and returned to the family.

Natural organic reduction involves accelerated natural decomposition of the body in a closed container along with organic materials such as straw, wood chips, and alfalfa with careful control of temperature, humidity, and gas exchange. Over a matter of weeks, the body tissues are reduced to what amounts to an enriched compost. A small amount can be returned to the family and the rest can be used to nourish trees, gardens, or natural preserves. Again, very little energy is used as the process makes use of naturally occurring, somewhat accelerated, decomposition.

Both of these processes avoid committing the metal, cement, and synthetic materials that end up underground in traditional burials, as well as the toxic chemicals used in embalming. They use less energy than flame cremation and are better for the environment because they avoid the release of potentially toxic gases into the atmosphere. They are also more cost effective than traditional burials. Not everyone will opt for one of these. But many people are looking for more environmentally friendly options for after-death care as a result of increased awareness of the environmental costs of our traditional ways of doing things. Legalizing alkaline hydrolysis and natural organic reduction will provide more choices for Maryland residents, choices that are already available in growing numbers of other states.

FCAME is concerned with providing grieving families with individual and affordable choices that will allow them to do what they believe is best for their loved ones. We urge the committee to make a favorable report on this legislation.

Testimony submitted by Barbara Blaylock, President of FCAME, and the FCAME Board of Trustees

*FCAME is the volunteer-run, regional chapter of the non-profit Funeral Consumers Alliance (FCA), the oldest and largest consumer protection organization focused solely on guarding the rights (and wallets) of grieving consumers. FCA and its chapters take no money from the death care industry or government.*

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Funeral Consumers Alliance of Maryland & Environs

<https://www.mdfunerals.org>

info@mfunerals.org

P.O. Box 34177, Bethesda, MD 20827

# **Green Death Care.pdf**

Uploaded by: Brianne Cohen

Position: FAV

March 4, 2024

The Honorable Brian Feldman, Chair  
Education, Energy and Environment Committee

The Honorable Joseline A. Pena-Melnyk, Chair  
Health and Government Operations Committee

Maryland General Assembly  
State Circle  
Annapolis, Maryland 21401

Re: HB 1168 / SB 1028 – The Green Death Care Options Act

Dear Chair Feldman and Chair Pena-Melnyk:

I am writing to urge your committees for a favorable report on the Maryland Green Death Care Options Act.

I want this option available for myself and my family. I always thought I would be cremated with my ashes spread on the Eastern Shore, but the more I learn about a natural, organic option, the more it interests me. I think I would like the choice to transform my body into soil instead of ash. And maybe I'll plant a tree along the shore and use my soil for the tree. In fact, we planted a beautiful magnolia in memory of my aunt last year - to think this could be an even more meaningful tribute for other family someday gives me comfort and peace.

This option is natural and safe for our shore and our families. And it would allow my family to be present with my body at the very end, placing me inside the vessel for the transformation to take place. This seems beautiful to me.

Please support this legislation so I can have the option for Natural Organic Reduction.

Thank you,  
Brienne Whelan Cohen  
748 Hills Point Road  
Cambridge, MD



# **CWM Letter for Green Death Care Options Act.pdf**

Uploaded by: Carolyn Martin

Position: FAV

February 27, 2024

The Honorable Brian Feldman, Chair  
Education, Energy and Environment Committee

The Honorable Joseline A. Pena-Melnyk, Chair  
Health and Government Operations Committee

Maryland General Assembly  
State Circle  
Annapolis, Maryland 21401

RE: **HB 1128 / SB 1068 – The Green Death Care Options Act**

Dear Chair Feldman and Char Pena-Melnyk:

I am writing to urge your committees for a favorable report on the Maryland Green Death Care Options Act.

From the perspective of someone who has handled local and long distance funeral arrangements, both traditional burials and cremations, at 67 I wish to have additional options for myself, those I leave behind and the environment. The 60 Minutes piece <https://www.cbsnews.com/video/human-composting-the-rising-interest-in-natural-burial/>, convinced me that natural organic reduction or water cremation would be my preference. I believe there is no reason that natural organic reduction and water cremation should be withheld from Maryland families. (I have been Montgomery County, Maryland resident for 32 years, since 1992.) Water cremation and NOR should be options for people who committed to a greener lifestyle before death because the environmental impact of conventional funerals is entirely avoidable with these better death care options. Now that so many other states have proven the science and reliability of these options, Maryland can have no excuse for lagging behind.

Please step up to support this legislation because it's the right thing to do.

Sincerely,

Name  
City, State

**HB 1168 SB 1028 In Favor.pdf**

Uploaded by: Catherine Bye

Position: FAV

Catherine E. D. Bye  
5301 Ross Neck Road  
Cambridge, MD 21613

March 4, 2024

The Honorable Brian Feldman, Chair  
Education, Energy and Environment Committee

The Honorable Joseline A. Pena-Melnyk, Chair  
Health and Government Operations Committee

Maryland General Assembly  
State Circle  
Annapolis, Maryland 21401

RE: **HB 1168 / SB 1028 – The Green Death Care Options Act**

Dear Chair Feldman and Chair Pena-Melnyk:

I am writing to urge your committees for a favorable report on the Maryland Green Death Care Options Act.

As someone who does not want to further imperil the environment after she dies, I believe that natural organic reduction and water cremation should be available to Maryland families. Water cremation and NOR should be options for people who are committed to a greener lifestyle before death. The environmental impact of conventional funerals is entirely avoidable with these better death care options. Now that so many other states have proven the science and reliability of these options, Maryland can have no excuse for falling behind.

Please step up to support this legislation because it's the right thing to do.

Sincerely,

*s/ Catherine E. D. Bye*  
Cambridge, MD

# **Green Death Care Options Act Letter.pdf**

Uploaded by: Darby Pearson

Position: FAV

March 4, 2024

The Honorable Brian Feldman, Chair  
Education, Energy and Environment Committee

The Honorable Joseline A. Pena-Melnyk, Chair  
Health and Government Operations Committee

Maryland General Assembly  
State Circle  
Annapolis, Maryland 21401

RE: **HB 1168 / SB 1028 – The Green Death Care Options Act**

Dear Chair Feldman and Chair Pena-Melnyk:

I am writing to urge your committees for a favorable report on the Maryland Green Death Care Options Act.

From the perspective of someone who believes people should have access to a variety of death care options, I believe there is no reason that natural organic reduction and water cremation should be withheld from Maryland families. Water cremation and NOR should be options for people who committed to a greener lifestyle before death because the environmental impact of conventional funerals is entirely avoidable with these better death care options. Now that so many other states have proven the science and reliability of these options, Maryland can have no excuse for lagging behind.

Please step up to support this legislation because it's the right thing to do.

Sincerely,  
Darby Pearson

Washington DC

# **SUPPORT OF SB1028 Green Death Care Options Act.pdf**

Uploaded by: Dave Arndt

Position: FAV

**TESTIMONY IN SUPPORT OF SB1068**  
**“The Green Death Care Options Act”**

Education, Energy and Environment Committee  
March 1, 2024

Dear Chair Feldman and Committee Member,

Thank you for allowing our testimony today in support of SB1068. My name is Dave Arndt, a resident of Baltimore MD, a Climate, Environmental and Social Justice advocate, a chemical engineer, a former Director for BP Solar in Frederick MD, a retiree of The National Institutes of Health and a co-lead of the Maryland Legislative Coalition Climate Justice Wing.

Talking about death options can be very difficult and traumatic. There are many of us that want better environmentally friendly arrangements for our bodies after we die. SB1068 provides another option here. There is no reason that natural organic reduction and water cremation should be withheld from my family or others who want a better environmental option. Many other states have proven the science and reliability of these options, Maryland has no excuse for not allowing this option.

Also, this bill gives us another alternative to cremation and could be the solution for our issues with having crematoriums in residential neighborhoods. Water cremation and NOR can be used instead, providing a win-win-win; for the family, the neighborhoods and the funeral homes.

I to urge your committees for a favorable report on the Maryland Green Death Care Options Act.

Sincerely,

Dave Arndt.  
Baltimore



# **Green Death Care Options Act\_JM.pdf**

Uploaded by: Jennifer Morash

Position: FAV

March 4, 2024

The Honorable Brian Feldman, Chair  
Education, Energy and Environment Committee

The Honorable Joseline A. Pena-Melnyk, Chair  
Health and Government Operations Committee

Maryland General Assembly  
State Circle  
Annapolis, Maryland 21401

RE: **HB 1168 / SB 1028 – The Green Death Care Options Act**

Dear Chair Feldman and Chair Pena-Melnyk:

I am writing to urge your committees to support the Maryland Green Death Care Options Act.

I recently earned my doctorate from the University of Maryland in Plant Science where my research focused on organic soil amendments and nutrient cycles. I see no reason that natural organic reduction and water cremation should be withheld from Maryland families. These burial options are safe, sustainable, and comforting options for families, like mine, seeking green burials for loved ones. I would be happy to answer any questions that you have about the composting process or about what can be expected when transformed remains are returned to the earth.

I hope that you'll join me in supporting this legislation.

Sincerely,

Jennifer Morash, Ph.D.  
Silver Spring, MD

# **Green Death Care Act .pdf**

Uploaded by: Jon Christmann

Position: FAV

March 1, 2024

The Honorable Brian Feldman, Chair  
Education, Energy and Environment Committee

The Honorable Joseline A. Pena-Melnyk, Chair  
Health and Government Operations Committee

Maryland General Assembly  
State Circle  
Annapolis, Maryland 21401

RE: **HB 1168 / SB 1028 – The Green Death Care Options Act**

Dear Chair Feldman and Chair Pena-Melnyk:

My name is Jon Christmann and I urge your committees to support the Maryland Green Death Care Options Act.

I have always been concerned about the earth and wish to have a death care option at the end of my life that minimizes harm to the environment. The Green Death Care Options Act provides me that choice and I believe there is no reason that Natural Organic Reduction (NOR) and water cremation options should be withheld from Maryland families.

Nearly 2/3rds of Americans have expressed an interest in green burial options; indicating a need for sustainable and more affordable alternatives at the end of life. The Maryland funeral industry has been engaged in this legislation which will provide the industry the opportunity to expand its scope of services.

Other states offer Green Death Care alternatives and I would like to see Maryland join their ranks. In conclusion, please support this important legislation.

Sincerely,

Jon Christmann  
Timonium, MD

# **Letter for Green Death Care Options Act TIPTON.pdf**

Uploaded by: Jonathan Tipton

Position: FAV

March 4, 2024

The Honorable Brian Feldman, Chair  
Education, Energy and Environment Committee

The Honorable Joseline A. Pena-Melnyk, Chair  
Health and Government Operations Committee

Maryland General Assembly  
State Circle  
Annapolis, Maryland 21401

RE: **HB 1168 / SB 1028 – The Green Death Care Options Act**

Dear Chair Feldman and Chair Pena-Melnyk:

I am writing myself to urge your committees for a favorable report on the Maryland Green Death Care Options Act.

Being the one that must manage the burial of a deceased family or friend is hard enough. It's even harder if the market for cremations remains limited and opaque. There is absolutely no reason that natural organic reduction and water cremation should be withheld as an option for Maryland families dealing with this issue (and by extension those of us living in D.C. who utilize cremation services in Maryland). Water cremation and NOR should be options for anyone. Not only will it provide more options for family members dealing with the death of a loved one but it's also environmentally friendly.

If you haven't already had to handle the burial of a loved one, the day will come, and you will wish that there were more options available to you to honor that person in your life.

Sincerely,

Jonathan Tipton  
Washington, D.C.

# **Graves^J K. Green Death Care Options Act.pdf**

Uploaded by: Kameeka Graves

Position: FAV

March 1, 2024

The Honorable Brian Feldman, Chair  
Education, Energy and Environment Committee

The Honorable Joseline A. Pena-Melnyk, Chair  
Health and Government Operations Committee

Maryland General Assembly  
State Circle  
Annapolis, Maryland 21401

RE: **HB 1168 / SB 1028 – The Green Death Care Options Act**

Dear Chair Feldman and Char Pena-Melnyk:

I am writing to urge your committees for a favorable report on the Maryland Green Death Care Options Act.

In November of 2022, in the middle of the COVID-19 pandemic, I held my Father's hand as he died from metastatic bone cancer. Before he lost his ability to speak, I got a chance to talk to him about how he wanted to be remembered and how he wanted his remains to be handled. The ways to honor his memory and remains were slim and I knew I had to be sure his legacy lived on in ways that kept on giving back. He was an advocate for the underdog and dripped with kindness and compassion. We donated his remains and made an investment to cancer research, but if given the option, I would have loved to preserve his remains another way. I believe there is no reason that natural organic reduction and water cremation should be withheld from Maryland families. Water cremation and NOR should be options for people who are committed to a greener lifestyle before death because the environmental impact of conventional funerals is entirely avoidable with these better death care options. Now that so many other states have proven the science and reliability of these options, Maryland can have no excuse for lagging behind.

Please step up to support this legislation because it's the right thing to do.

Sincerely,

Kameaka Graves  
Bowie, Maryland



# **Green Death Care Options Act - K Liser.pdf**

Uploaded by: Karen Liser

Position: FAV

March 4, 2024

The Honorable Brian Feldman, Chair  
Education, Energy and Environment Committee

The Honorable Joseline A. Pena-Melnyk, Chair  
Health and Government Operations Committee

Maryland General Assembly  
State Circle  
Annapolis, Maryland 21401

RE: **HB 1168 / SB 1028 – The Green Death Care  
Options Act**

Dear Chair Feldman and Chair Pena-Melnyk:

I am writing on behalf of myself to urge your committees for a favorable report on the Maryland Green Death Care Options Act.

From the perspective of someone who has handled funeral arrangements for many family members believe there is no reason that natural organic reduction and water cremation should be withheld from Maryland families I know many loved ones who have liked this option. Water cremation and NOR should be options for people who committed to a greener lifestyle before death because the environmental impact of conventional funerals is entirely avoidable with these better death care options. Now that so many other states have proven the science and reliability of these options, Maryland can have no excuse for lagging behind.

Please step up to support this legislation because it's the right thing to do.

Sincerely,

Karen Liser  
Bowie, MD

# **Letter for Green Death Care Options Act - Kolya Br**

Uploaded by: Kolya Braun-Greiner

Position: FAV



**Kolya Braun-Greiner, M.Div.**

7603 Central Ave., Takoma Park, MD 20912

c. 301-909-8943 kolyabg@gmail.com



March 4, 2024

The Honorable Brian Feldman, Chair  
Education, Energy and Environment Committee

The Honorable Joseline A. Pena-Melnyk, Chair  
Health and Government Operations Committee

Maryland General Assembly  
State Circle  
Annapolis, Maryland 21401

**RE: HB 1168 / SB 1028 – The Green Death Care Options Act**

Dear Chair Feldman and Chair Pena-Melnyk:

I am writing to urge your committees for a favorable report on the Maryland Green Death Care Options Act.

I am a 68 year old faith-based environmental educator who cares deeply for the health and welfare of all life upon God's good Earth. I do not want the burial of my body to add poisons to the soil (e.g. embalming fluid) nor release more carbon (through fire cremation) into the atmosphere contributing to climate change. Supporting a viable option, I believe the opportunity to choose natural organic reduction and water cremation should not be withheld from Maryland families. Water cremation and NOR should be options for people who committed to a greener lifestyle before death because the environmental impact of conventional funerals is entirely avoidable with these better death care options. Now that so many other states have proven the science and reliability of these options, Maryland can join those who have already paved the way to a greener future by offering these green burial choices.

I ask you to support this legislation because it's the right thing to do.

Sincerely,

Kolya Braun-Greiner, MDiv

7503 Central Ave.  
Takoma Park, MD 20912

# **Buerkle Senate testimony\_March\_3\_2024.pdf**

Uploaded by: Lily Buerkle

Position: FAV

**green legacy™**  
Green Legacy Brands LLC  
8403 Colesville Road, Suite 1100  
Silver Spring, Maryland 20910  
(301) 264-7959

March 4, 2024

The Honorable Brian Feldman, Chair  
Energy, Education, and Environment Committee  
Maryland General Assembly  
Annapolis, Maryland 21401

**RE: SB 1028 / HB 1168 – The Green Death Care Options Act - FAV**

Dear Chair Feldman,

I am writing to register our enthusiastic support for HB 1168 / SB 1028, The Green Death Care Options Act – legislation that would authorize both Natural Organic Reduction and Alkaline Hydrolysis – commonly called “human composting” and “water cremation.”

As a licensed mortician and funeral director in Maryland with about decade of experience serving families, the capacity to say “Yes” to families is a big part of my passion for serving in death care. I routinely see one type of family get left out of the equation with death care options - these are the “green” families. The families who attempt to live sustainable lives by driving electric vehicles or putting solar panels on their houses; those who vigorously recycle and who try to reduce their personal carbon footprint. These same families are forced to choose between the only two options currently legal at death – fire cremation and burial. It’s time to offer Marylanders what people in so many other states already have access to: Natural Organic Reduction and Alkaline Hydrolysis.

The only “green” option that exists today in Maryland is called natural burial – which means the body is not embalmed and is placed in a casket of natural material, or even just shrouded, and buried directly into the grave without a concrete liner or vault. However, natural burial is only available in a handful of cemeteries across the entire state. Cemetery plots are often costly and there are simply many families who do not wish to take up space in the land for an eternity. They want other options.

The Green Death Care Options Act is not about taking away traditional choices with funeral service, it is truly about expanding options to families who want them. There are safe alternatives to traditional death care available right now and Marylanders should have access to them. Water cremation, also known as Alkaline Hydrolysis, is legal in more than 20 states, and yet, for Maryland families who want this cleaner form of cremation that produces no emissions and burns no fossil fuels, they must transport their bodies down to North Carolina to get it.

Additionally, Natural Organic Reduction (NOR), commonly called “human composting” allows for families to transform their bodies gently and naturally into nutrient rich soil – this process is now legal in New York, Vermont, Washington, Colorado, Nevada, Oregon, and soon perhaps in Delaware. At least 13 other states are considering NOR bills this session. Recompose, a NOR operator in Washington state, reports that 30% of their business comes from out of state. And the National Funeral Directors Association

The Honorable Brian Feldman, Chair

March 4, 2024

RE: **SB 1028 / HB 1168 – The Green Death Care Options Act - FAV**

reports that over 60% of families are interested in greener funeral options. The NFDA also estimates that by 2040, 75% of people who die in Maryland will choose fire cremation, which will continue to only increase CO2 emissions unless other options become available. The time to act is now.

We can offer safe, beautiful, dignified greener funeral options that are kinder to our planet right now – options that help address Maryland’s urgent climate change goals. These new funeral alternatives are based on decades of solid science and research as well as the many current operators offering these services in other states. Families who choose NOR or water cremation will still be able to participate in the death care of their loved one – whether that means helping with body care, or being present as their loved ones are laid to rest. They will still be able to have traditional visitations and funerals when selecting Natural Organic Reduction or Alkaline Hydrolysis as their disposition method.

There is a movement happening all over the country – Marylanders are paying attention and they want access to all the options – not just fire cremation and burial. There is no reason to continue to send Marylanders out of state to access these safe proven effective alternatives.

I urge to you to vote favorably on The Green Death Care Act. Because families want it. Because it is safe. Because there are decades of research behind it. Because it is beautiful. Because it can lower CO2 emissions. Because it is dignified. And it puts Maryland families in the driver seat to choose what they want. Because Maryland families want to honor the way they live – they do not want their last act on this earth to be one that pollutes it.

Thank you for the opportunity to contribute to the committee’s deliberation. We urge each member of the committee to vote green on SB 1028 / HB 1168. Say “Yes” to Maryland families who need green funeral options.

Sincerely,



Lily Buerkle

Green Legacy, Co-Founder



# **NOR\_AH\_Images\_Revised 03012024.pdf**

Uploaded by: Lily Buerkle

Position: FAV

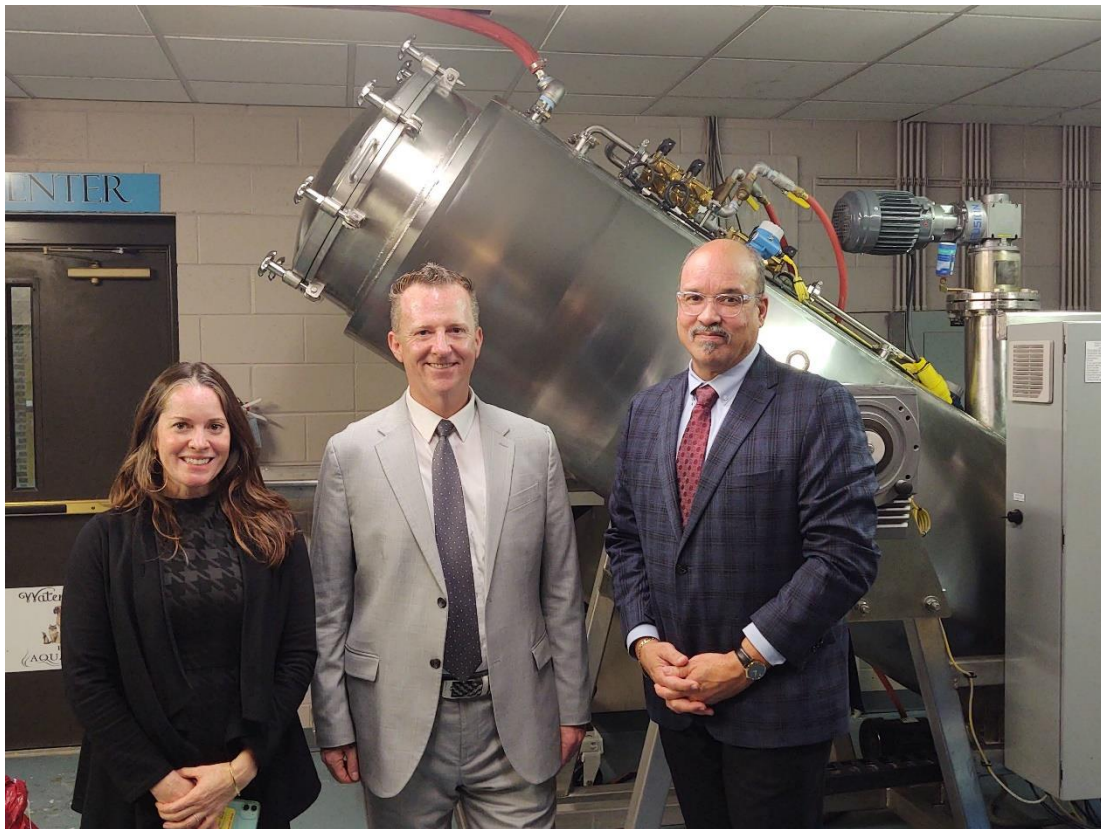
## Maryland's Green Death Care Options Act – HB 1168 / SB 1028

Natural Organic Reduction – transforms the body into soil & Water Cremation – gentle with zero emissions

Dignified beautiful death care that is kinder to the planet



Recompose – NOR facility in Washington State



Lily Buerkle and NC Funeral Director/Water Cremation Provider, Eric Bester with Adrian Gardner





Family participating in a "laying in" ceremony at Recompose in Seattle, WA



The family gathering space around a NOR vessel at Return Home in Auburn, Washington

**SB1028\_FAV\_mgoldstein 2024.pdf**

Uploaded by: Mathew Goldstein

Position: FAV



Secular Maryland

<https://secularmaryland.dorik.io> [secularmaryland@tutanota.com](mailto:secularmaryland@tutanota.com)

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March 05, 2023

**SB 1028 - FAV**

Human Remains - Alkaline Hydrolysis and Natural Organic Reduction (Green Death Care Options Act)

Dear Chair Brian J. Feldman, Vice-Chair Cheryl C. Kagan, and Members of the Education, Energy, and the Environment Committee,

According to Business Regulation §5-101(e) cremation is defined as “the process of reducing human remains to bone fragments through intense heat and evaporation, including any mechanical or thermal process.” The phrases “intense heat and evaporation” and “any mechanical” are not well defined and as a result it remains unclear which options other than burial and flame cremation, if any, are allowed for disposing of corpses. Cremation usually occurs within the range of 1400 to 1800 degrees Fahrenheit. Two other reduction methods, resomation and natural organic reduction (a.k.a composting), occur at lower temperatures. The former relies on a chemical process and the latter on a biological process. Both methods should be clearly and explicitly authorized. Secular Maryland is very pleased that this bill proposes to do just that.

Resomation, also known as alkaline hydrolysis, uses a solution of water and potassium hydroxide (caustic potash) instead of high heat flame. The solution is heated to 350 degrees Fahrenheit at a pressure of 10 bar in a steel chamber which dissolves the body. A sterile liquid and bone fragments remain, along with any inorganic materials like tooth fillings and breast implants which could be recycled. The liquid, about 100 gallons total, containing amino acids, peptides, sugars and salts, is treated to lower the PH (by adding acid), and is then disposed (via the sewer system). The process takes no more than 3 hours, breaks down toxic chemicals (including embalming chemicals), kills pathogens, uses a fraction of the energy of traditional cremation, and avoids the emission of mercury vapors.

Natural organic reduction uses no hazardous chemicals. In 2019, Washington became

the first state to legalize natural organic reduction as a post-life option. The remains are placed on carbon-rich materials, like sawdust and straw, together with a nitrogen rich material, such as alfalfa, moisture, and circulating air. Bacteria and the enzymes they release break down the tissue for at least one month (4-7 weeks). Metal fillings, pacemakers, and artificial limbs are removed. A cubic yard of soil plus bones remains (1.5 to 2 cubic yards total). The resulting soil meets safety standards set by the U.S. Environmental Protection Agency for such contaminants as heavy metals. Commercial processes would likely also process the bones. Composting temperature reach 120-160 degrees Fahrenheit which is sufficient to kill off dangerous pathogens. Someone who dies from a prion or contagious disease would not be a candidate for recomposition.

Traditional cemetery burial is associated with the toxicity of embalming chemicals and consumes wood, metal, and concrete as well as land and water to properly maintain burial grounds. Over 500 pounds of carbon dioxide are released into the atmosphere by each cremation despite efforts to minimize emissions. Demand for cremation, which tends to be less expensive than burial, now exceeds traditional burial, surpassing 50% in 1996. Yet cremation releases mercury vapors from dental amalgams, dioxins, and particulate matter.

Respectfully,  
Mathew Goldstein  
3838 Early Glow Ln  
Bowie, MD 20716

**SB 1028 - CBF - FAV.pdf**

Uploaded by: Matt Stegman

Position: FAV



# CHESAPEAKE BAY FOUNDATION

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*Environmental Protection and Restoration  
Environmental Education*

## **Senate Bill 1028**

Human Remains - Alkaline Hydrolysis and Natural Organic Reduction (Green Death Care Options Act)

Date: March 5, 2024

To: Education, Energy, and the Environment Committee

Position: **Favorable**

From: Matt Stegman  
MD Staff Attorney

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Chesapeake Bay Foundation (CBF) **SUPPORTS** Senate Bill 1028, which would establish a regulatory framework to permit Marylanders to choose more environmentally-friendly forms of death care.

Traditional burial methods are a contributing source to adverse water quality impacts. Embalming chemicals can leach into the ground after burial and eventually into waterways. Cremation produces carbon dioxide emissions, impacting air quality. The bill would permit Marylanders the additional choices of alkaline hydrolysis and natural organic reduction as death care options, setting appropriate oversight and standards for both practices.

**CBF urges the Committee's FAVORABLE report on SB 1028.**

For more information, please contact Matt Stegman, Maryland Staff Attorney, at [mstegman@cbf.org](mailto:mstegman@cbf.org).

Maryland Office • Philip Merrill Environmental Center • 6 Herndon Avenue • Annapolis • Maryland • 21403

*The Chesapeake Bay Foundation (CBF) is a non-profit environmental education and advocacy organization dedicated to the restoration and protection of the Chesapeake Bay. With over 200,000 members and e-subscribers, including 71,000 in Maryland alone, CBF works to educate the public and to protect the interest of the Chesapeake and its resources.*



# **Please Support Green Death Care Options Act (Hardw**

Uploaded by: Maureen Hardwick

Position: FAV

Hardwick Family  
9023 Jones Mill Road  
Chevy Chase, MD 20815

February 27, 2024

*Via Email*

The Honorable Brian Feldman, Chair  
Senate Education, Energy and Environment Committee

The Honorable Joseline A. Pena-Melnyk, Chair  
House Health and Government Operations Committee

RE: **HB 1128 / SB 1068 – The Green Death Care Options Act**

Dear Chair Feldman and Chair Pena-Melnyk:


We write to strongly urge your Committees for a favorable report on the **Maryland Green Death Care Options Act**. This is essential legislation that provides choice at end of life and is aligned with Maryland's sustainability goals.

We care deeply about protecting our environment and are committed to pursuing a more sustainable lifestyle. The impact of conventional funerals is troubling and is avoidable with better death care options. We were excited to learn of natural organic reduction (NOR) and water cremation. The science and reliability of these options is well-established and many other states support NOR and water cremation. We believe there is ***absolutely no rational reason*** that these sustainable options should be withheld from Maryland families.

This is a profoundly personal, impactful and sacred decision. Maryland must not lag behind other states or unduly limit options for its citizens.

Please support this legislation.

Sincerely,



Maureen, John & Emerson Hardwick

cc: Delegate Bonnie Cullison, Vice Chair Health and Government Operations Committee

# **Mikol Bailey- Green Death Care Options Act.pdf**

Uploaded by: Mikol Bailey

Position: FAV

March 4, 2024

The Honorable Brian Feldman, Chair  
Education, Energy and Environment Committee

The Honorable Joseline A. Pena-Melnyk, Chair  
Health and Government Operations Committee

Maryland General Assembly  
State Circle  
Annapolis, Maryland 21401

RE: **HB 1168 / SB 1028 – The Green Death Care Options Act**

Dear Chair Feldman and Chair Pena-Melnyk:

I am writing to urge your committees for a favorable report on the Maryland Green Death Care Options Act.

From the perspective of a Marylander who cares about death care and would like to have this environmentally friendly option when I die, I believe there is no reason that natural organic reduction and water cremation should be withheld from Maryland families. Water cremation and NOR should be options for people who committed to a greener lifestyle before death because the environmental impact of conventional funerals is entirely avoidable with these better death care options. Now that so many other states have proven the science and reliability of these options, Maryland can have no excuse for lagging behind.

Please step up to support this legislation because it's the right thing to do for your constituents and for our beautiful state.

Sincerely,

A handwritten signature in black ink, appearing to read 'Mikol Bailey'. The signature is fluid and cursive, with a large loop at the end.

Mikol Bailey  
Silver Spring, MD

# **SB1028\_Personal\_Peter Alexander.pdf**

Uploaded by: Peter Alexander

Position: FAV

**SB1028**

**Human Remains - Alkaline Hydrolysis and Natural Organic Reduction  
(Green Death Care Options Act)**

**Testimony before the Education, Energy, and the Environment**

**Hearing March 5, 2024**

**Position: Favorable**

Dear Chair Feldman and Vice-Chair Kagan, and members of the committee, my name is Peter Alexander, and I am providing written testimony today **in support of SB1028**. I appreciate the leadership of Senator Waldstreicher in sponsoring this legislation.

I've been troubled for some time about current funeral practices in the U.S. Cemetery burials are costly affairs that occupy increasingly valuable land while cremation generates greenhouse gases and other pollutants from an energy-intensive process. Now, "green" burials are available in several states. Seven, including Washington, Colorado, Oregon, California, Vermont, and New York allow Natural Organic Reduction and 20 states allow Alkaline Hydrolysis (also known as "water cremation" or "aquamation"). I would like Maryland to add these green burial options to existing Maryland law.

Natural Organic Reduction gently transforms human remains into soil. The resulting soil is safe to be scattered in ornamental gardens and conservation forests although health regulations prohibit their use in gardens used to grow food. Alkaline hydrolysis is another reduction process in which water, alkaline chemicals, and heat are used to accelerate decomposition. The ash from the process is handled like cremation ash and the resulting liquid effluent, which 95% water, is safe to discharge like any other wastewater. Each of these processes uses 90% less energy than regular cremation. There is a demand for green burials – surveys have shown that 64% of American express an interest in them.

SB1028 would amend current law by adding alkaline hydrolysis and natural organic reduction as alternative funeral options for families. It would create regulations developed with help from the Maryland State Board of Morticians and Funeral Directors (BOMFD) and the Maryland Office of Cemetery Oversight (OCO). These two agencies would then administer the licensing of these programs in the same way that they currently regulate crematories. Maryland's funeral industry would be allowed to offer alkaline hydrolysis and natural organic reduction as funeral options at facilities located anywhere in Maryland where local zoning would allow them.

Green burials are safe and environmentally friendly, and Maryland residents should have the option to choose a green burial.

Thank you for your consideration of this legislation.

**We respectfully urge a favorable report.**

Peter Alexander, PhD  
Woodbine, MD 21797

# **Green Death Care Options Act Letter .pdf**

Uploaded by: Rachel Friedman

Position: FAV

March 4th, 2024

The Honorable Brian Feldman, Chair  
Education, Energy and Environment Committee  
The Honorable Joseline A. Pena-Melnyk, Chair  
Health and Government Operations Committee  
Maryland General Assembly  
State Circle  
Annapolis, Maryland 21401  
RE: HB 1168 / SB 1028 – The Green Death Care Options Act

Dear Chair Feldman and Chair Pena-Melnyk:

I am writing to urge your committees for a favorable report on the Maryland Green Death Care Options Act.

From my perspective, I believe there is no reason that natural organic reduction and water cremation should be withheld from Maryland families. We can't afford to not utilize strategies and methods which will make our planet greener and safer for all. Water cremation and NOR should be options for people who committed to a greener lifestyle before death because the environmental impact of conventional funerals is entirely avoidable with these better death care options. Now that so many other states have proven the science and reliability of these options, Maryland can have no excuse for lagging behind.

Even though I am a DC resident, being so close to Maryland means that I am equally invested in environmental actions that Maryland takes.

Please step up to support this legislation because it's the right thing to do.

Sincerely,

Name  
Rachel Friedman  
Washington, DC



# **SB1028\_Green Death\_EEE\_IndivisibleHoCo\_HoCoClimate**

Uploaded by: Ruth White

Position: FAV



HoCoClimateAction.org  
Howard County, Maryland

**SB1028**

**Human Remains - Alkaline Hydrolysis and Natural Organic Reduction  
(Green Death Care Options Act)**

**Testimony before the Education, Energy, and the Environment**

**Hearing March 5, 2024**

**Position: Favorable**

Dear Chair Feldman and Vice-Chair Kagan, and members of the committee, our names are Peter Alexander and Liz Feighner, and we represent the 750+ members of Indivisible Howard County and HoCo Climate Action, a 350.org local chapter and a grassroots organization representing approximately 1,400 subscribers, respectively. Both organizations are active members of the Maryland Legislative Coalition (with 30,000+ members). We are providing written testimony today **in support of SB1028**. We appreciate the leadership of Senator Waldstreicher in sponsoring this legislation.

Cemetery burials are costly affairs that occupy increasingly valuable land while cremation generates greenhouse gases and other pollutants from an energy-intensive process. Now, "green" burials are available in several states. Seven, including Washington, Colorado, Oregon, California, Vermont, Nevada, and New York allow Natural Organic Reduction and 20 states allow Alkaline Hydrolysis (also known as "water cremation" or "aquamation"). We would like Maryland to add these green burial options to existing Maryland law.

Natural Organic Reduction gently transforms human remains into soil. The resulting soil is safe to be scattered in ornamental gardens and conservation forests. Alkaline hydrolysis is another reduction process in which water, alkaline chemicals, and heat are used to accelerate decomposition. The ash from the process is handled like cremation ash and the resulting liquid effluent, which is 95% water, is safe to discharge like any other wastewater after a pH adjustment. Each of these processes uses 80% less energy than regular cremation. There is a demand for green burials – surveys have shown that 64% of Americans express an interest in them.

SB1028 would amend current law by adding alkaline hydrolysis and natural organic reduction as alternative funeral options for families. It would create regulations developed with help from the Maryland State Board of Morticians and Funeral Directors (BOMFD) and the Maryland Office of Cemetery Oversight (OCO). These two agencies would then administer the licensing of these programs in the same way that they currently regulate crematories. Maryland's funeral industry would be allowed to offer alkaline hydrolysis and natural organic reduction as funeral options at facilities located anywhere in Maryland where local zoning would allow them.

Green burials are safe and environmentally friendly, and Maryland residents should have the option to choose a green burial.

Thank you for your consideration of this legislation.

**We respectfully urge a favorable report.**

Peter Alexander, PhD  
Woodbine, MD 21797

Liz Feighner  
Laurel, MD 2072

# **General Information about Alkaline Hydrolysis.pdf**

Uploaded by: Samantha Sieber

Position: FAV

# Alkaline Hydrolysis as an Option for Families

## Overview

Alkaline hydrolysis, more commonly known as Aquamation, is an alternative to flame-based cremation and burial. This process achieves the same end result as flame cremation, which is reduction of the body to final ash remains. It does so without burning any fossil fuels, without emitting any harmful greenhouse gases, and using 90% less energy than cremation. Additionally, mercury is not emitted to the air with Aquamation as it is with flame cremation.

The lower temperature of the process (200-300°F, compared to 1600-1800°F of flame cremation) does not vaporize this metal. Mercury is contained in dental amalgam, and it remains bound in the filling. Following Aquamation, these fillings are recycled through the same EPA recyclers that dental offices use, and are never released to the environment through air or water.

Options for services and memorialization are unchanged. Most families still hold a viewing and/or service to honor their loved one. The body may still be embalmed for transport home from another state or country, or to facilitate family wishes for traditional viewings and services. In fact, embalming chemicals are broken down completely by the Aquamation process.

The family still receives ash remains – in fact approximately 20-30% more. Anything that can be done with ashes from flame-based cremation, can also be done with ashes from this water-based process. The ashes are completely sterile and safe to handle.

By scientific definition, ashes are the inorganic minerals that remain after all organic material has been broken down. The minerals that remain from Aquamation, flame cremation, and burial after many years – are the mineral remains of the bones, or calcium phosphate.

Because the temperature of the process is approximately 1500 degrees less than flame cremation, and it uses a very gentle flow of water, more of the mineral remains are retained.

Options for ashes are endless, and people's choices depend on their religious beliefs and personal preferences.

1. Many families choose to have the ashes placed in a special urn for permanent placement in a cemetery, family plot or mausoleum, or in a columbarium.
2. Families may also bury or scatter the ashes on land or sea (as local regulations allow).

3. Many options for keeping their loved one close also exist, such as cremation jewelry or memory glass, where some of the ashes are incorporated into a piece by local artists.

## How Aquamation Works

The scientific name for what happens in the Aquamation process is **alkaline hydrolysis**— a type of reaction where water molecules break the bonds of organic materials. Aquamation takes place in a state-of-the-art stainless steel system that is powered only by electricity. Just like with flame cremation where families have options for their choice of suitable cremation casket ( or “cremation container”), families have options with Aquamation as well – specifically made to biodegrade in the process.

Once the deceased is placed in the system, the process works by gently circulating a heated solution of 95% water and 5% alkali around the body for an extended period of time. The flow of the water is similar to that which you would see in a small creek.

Similar to flame cremation, all that remains for the operator at the end of the process are the final bone remains (calcium phosphate) and any medical implants. Just as with flame-cremation, the final bone remains are processed into a fine ash powder for return to the family in an urn.

The medical implants from Aquamation are in remarkable condition, clean and ready for recycling. This is one of the greatest environmental benefits of this option, as those precious metals stay “in the loop” for future use instead of being buried in the ground forever.

Alkaline hydrolysis is a proven sterilization technology in which all pathogens are destroyed, as well as all chemotherapy and embalming agents (if present in the body).

Alkali is the chemical opposite of an acid. It is made from sodium and potassium salts. The alkali added to the process is based on the weight of the body, and it is completely consumed by the end of the process.

The amount of time the process takes depends on the temperature of the process. The process typically takes 4-6 hours at 302°F, or 12-14 hours at 204°F. For comparison, flame cremation typically takes place at 1600-1800°F for 2-3 hours.

The amount of water used in the process is less than a household of 4 uses in a single day – or, the equivalent to 2-3 days use of water for a single individual. The ending process water consists of 96% water, and 4% amino acids, small peptides, sugars, and salts – these are the organics of the body broken down into their most basic building blocks. There is no DNA or RNA remaining. With alkaline hydrolysis, these materials go to the local sanitation system where the water is filtered, cleaned, and recycled to the environment. With flame cremation, these same materials go into the air and subsequently the water. With burial, these materials go into the ground and subsequently the water table.

Unlike flame cremation, the ash content is composed only of the mineral calcium phosphate remains of the deceased. There is no ash content from caskets, clothing, etc.

## The Family's Perspective

The numerous end-of-life choices that families must make are very personal. We have learned over time that some common sentiments expressed by families about this option include:

- They are grateful to have a choice.
- They prefer a process that does not use fire/flame.
- They prefer receiving up to 20% more of their loved ones' ashes returned to the family.
- They personally perceive this to be a gentler option than flame-based cremation.
- They value the decreased environmental impact of the process.
- If the equipment is on-site (as is possible with this emission-free technology), they are comforted by the fact that their loved one is not leaving the care of their selected funeral home.

Data analysis of cremation records (for funeral homes in the United States and Canada offering this option) has shown that 80% of families desiring cremation select this option over flame cremation. Preplanning rates are significantly higher than 80%.

## Research

Modern alkaline hydrolysis technology as we know it today has been around for 30 years. During this time, the environmental benefits have been vetted by some of the best environmental agencies in the nation. While this option is sometimes recognized as "very new" in the funerary profession, it was pioneered beginning in 1995 for respectful disposition of human bodies by prestigious willed body programs like Shands Hospital at University of Florida, MAYO clinic, UTSW Medical School, UCLA School of Medicine, and now many more. It has been available to families as an option in parts of the world, primarily the United States and Canada, *for over a decade!*

Much of the research on alkaline hydrolysis exists due to its heavy adoption in the scientific fields. There are numerous published, peer-reviewed studies and complete environmental analyses on the technology. It is the preferred technology for sterilization and disposition of animal mortalities at universities, research facilities, and pharmaceutical and bio-containment laboratories because of its environmental benefits and its ability to destroy all pathogens.

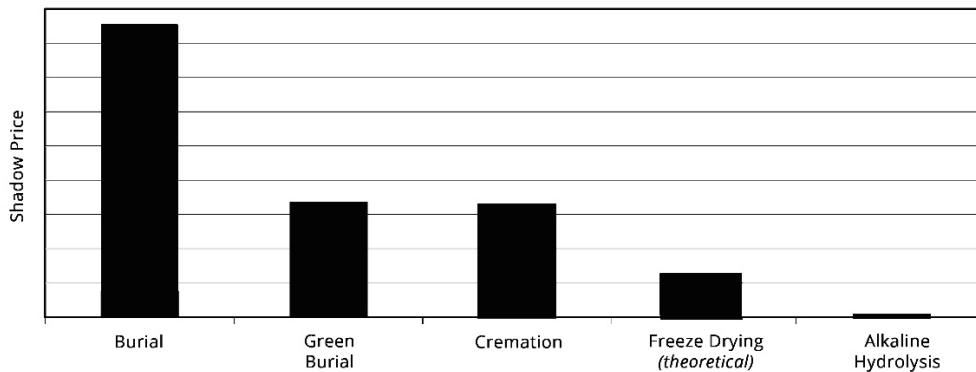
Sometimes adversaries point to its long history of use in the scientific fields as evidence that this is a waste disposal technology trying to make its way into the funerary profession. This is simply not the case. Animal mortalities must be handled through the same methods we use for final disposition of a human body, including burial, incineration (cremation), and alkaline hydrolysis.

Aquamation is an option in the funerary profession because it meets the needs of many people on many levels, including issues surrounding dignity and respect, financial needs, and cultural, religious, and social customs that precede and follow the disposition.

Alkaline hydrolysis has also been analyzed as part of an intense Live Cycle Assessment (LCA) of funerary practices, which examined the environmental impact of our customs, services, disposition, and final

placement. An LCA is a scientific study that examines a product or service from cradle to grave. A published and peer reviewed LCA found alkaline hydrolysis to have the lowest impact of all options based on the analysis of all 18 environmental impact categories. This cradle to grave approach covers all beginning to end of this option, including the manufacturing, transport, and impact of the chemical used; the source of the electricity, the water used, and the release of the process waters to the local sanitation; and the recovery and recycling of the metals following the process.

Environmental Impact of Funeral Techniques



Source: Keijzer, E.E., Kok H.J.G. TNO Report: Environmental Impact of Different Funeral Technologies. 2011.

**ENVIRONMENTAL IMPACT CATEGORIES ANALYZED**

- Climate change
- Ozone depletion
- Humane toxicity
- Photochemical oxidant formation
- Particulate matter formation
- Ionizing radiation
- Terrestrial acidification
- Freshwater eutrophication
- Marine eutrophication
- Terrestrial ecotoxicity
- Freshwater ecotoxicity
- Marine ecotoxicity
- Agricultural land occupation
- Urban land occupation
- Natural land transformation
- Water depletion
- Metal depletion
- Fossil depletion

References:

Denys G. Validation of the Bio-Response Solutions Human-28 Low-Temperature Alkaline Hydrolysis System. *Applied Biosafety*. 2019;24(4):182–188.

Keijzer, E. The environmental impact of activities after life: Life cycle assessment of funerals. *Int. J. Life Cycle Assess.* 2017;22: 715–730.

Keijzer EE Kok HJG. Environmental Impact of Different Funeral Technologies. *TNO Report*. 2001.

*Scope: This document has been prepared by Samantha Sieber for lawmakers, regulators, and professionals as a resource for general and technical information on Aquamation. Samantha has served as a biologist in the field for over 18 years, and has helped greater than 40 states (along with many other jurisdictions worldwide) draft legislation to make this option available to families.*

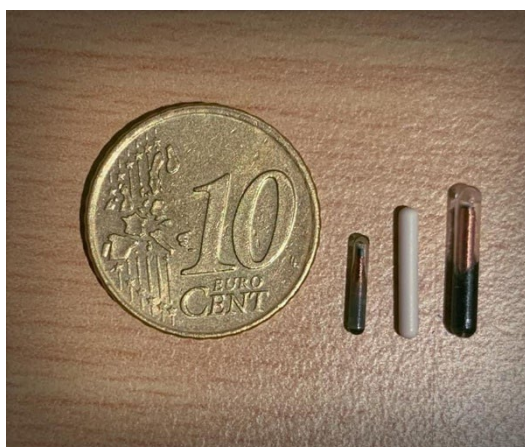


## Appendix A: Photo References

### Aquamation for Pets



*Above: Photos of Aquamation systems for pets. These are often installed in vet clinics, crematories, and funeral homes to serve pet families.*



*Above Left: Recovered microchips from the Aquamation process*

*Above Right: Owl remains after the Aquamation process and owl remains after processing into final ash remains for the family*



## Aquamation for People



*Above Left: An Aquamation system in a Maine crematory next to two flame units*

*Above Right: A system in a Minnesota funeral home; the unused casket room was converted for this use*



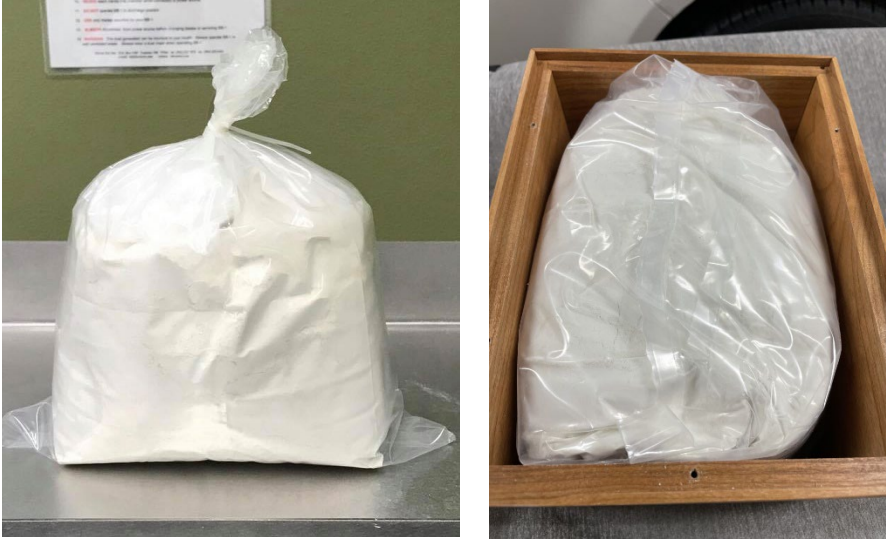
*Above: A system installed in a Minnesota embalming room*



*Above Left: A system installed with a family viewing area in a South African funeral home*

*Above Right: A system installed in a Canadian funeral home*

## The Final Ash Remains



*Above: Powdered mineral ash that will be placed in an urn for return to the family*

## Medical Implants



*Above: Medical implants recovered from Aquamation on the left, and medical implants recovered from flame cremation on the right. Notice that with Aquamation, the implants are in excellent condition, and that pacemakers do not have to be removed.*

# **Green Death Care Options Act Support Letter.pdf**

Uploaded by: Sandy Huffer

Position: FAV

February 29, 2024

The Honorable Brian Feldman, Chair  
Education, Energy and Environment Committee

The Honorable Joseline A. Pena-Melnyk, Chair  
Health and Government Operations Committee

Maryland General Assembly  
State Circle  
Annapolis, Maryland 21401

RE: **HB 1168 / SB 1028 – The Green Death Care Options Act**

Dear Chair Feldman and Char Pena-Melnyk:

My name is Sandy Huffer. I live in Annapolis and I urge your committees for a favorable report on the Maryland Green Death Care Options Act.

I spend most of my leisure time enjoying the outdoors, living a life that values sustainability and wish to have a death care option at the end of my life that does not harm the environment. The Green Death Care Options Act provides me that choice and I believe there is no reason that Natural Organic Reduction (NOR) and water cremation should be withheld from Maryland families.

Water cremation and NOR should be options for people who committed to a greener lifestyle before death due to the detrimental environmental impact of conventional funerals that is entirely avoidable with these better death care options. Nearly 2/3rds of Americans express an interest in green burial options, indicating a need for sustainable and more affordable alternatives. The Maryland funeral industry has been very engaged in this legislation and supports these alternatives which provides the opportunity for existing businesses to expand their scope of services.

Many other states have proven the science and reliability of these options and have approved their use. It is time for Maryland to stop denying families these eco-friendly alternatives. Please support this legislation because it's the right thing to do and will have zero-fiscal impact.

Sincerely,

Sandy Huffer  
Annapolis, MD

# **Green Death Care Options Act Support Letter.pdf**

Uploaded by: Susan Liedlich

Position: FAV

March 4, 2024

The Honorable Brian Feldman, Chair  
Education, Energy and Environment Committee

The Honorable Joseline A. Pena-Melnyk, Chair  
Health and Government Operations Committee

Maryland General Assembly  
State Circle  
Annapolis, Maryland 21401

RE: **SB 1028 / HB 1168 – The Green Death Care Options Act**

Dear Chair Feldman and Char Pena-Melnyk:

My name is Susan Liedlich. I live in Annapolis and I urge your committees for a favorable report on the Maryland Green Death Care Options Act.

I spend most of my leisure time enjoying the outdoors, living a life that values sustainability and wish to have a death care option at the end of my life that does not harm the environment. The Green Death Care Options Act provides me that choice and I believe there is no reason that Natural Organic Reduction (NOR) and water cremation should be withheld from Maryland families.

Water cremation and NOR should be options for people who committed to a greener lifestyle before death due to the detrimental environmental impact of conventional funerals that is entirely avoidable with these better death care options. Nearly 2/3rds of Americans express an interest in green burial options, indicating a need for sustainable and more affordable alternatives. The Maryland funeral industry has been very engaged in this legislation and supports these alternatives which provides the opportunity for existing businesses to expand their scope of services.

Many other states have proven the science and reliability of these options and have approved their use. It is time for Maryland to stop denying families these eco-friendly alternatives. Please support this legislation because it's the right thing to do and will have zero-fiscal impact.

Sincerely,

Susan Liedlich  
Annapolis, MD

**Letter in favor of SB 1028 4888-8931-6010 v.1.pdf**

Uploaded by: Susan Lutzker

Position: FAV



March 4, 2024

The Honorable Brian Feldman, Chair  
Education, Energy and Environment Committee

Maryland General Assembly  
State Circle  
Annapolis, Maryland 21401

RE: **HB 1128 / SB 1028 – The Green Death Care Options Act**

Dear Chair Feldman:

I am writing to urge your committee to favorably report on the Maryland Green Death Care Options Act.

From the perspective of someone who does not want to impair the environment after they die, I believe there is no reason that natural organic reduction and water cremation should be withheld from Maryland families. Water cremation and NOR should be options for people who committed to a greener lifestyle before death because the environmental impact of conventional funerals is entirely avoidable with these better death care options. Now that so many other states have proven the science and reliability of these options, Maryland can have no excuse for lagging behind. I live in the District of Columbia but family members live in Maryland.

Please step up to support this legislation because it's the right thing to do.

Sincerely,



Susan Lutzker  
Washington DC



# **Letter for Green Death Care Options Act (REVISED).**

Uploaded by: Tracy Mann

Position: FAV

March 1, 2024

The Honorable Brian Feldman, Chair  
Education, Energy and Environment Committee

The Honorable Joseline A. Pena-Melnyk, Chair  
Health and Government Operations Committee

Maryland General Assembly  
State Circle  
Annapolis, Maryland 21401

RE: **HB 1168 / SB 1028 – The Green Death Care Options Act**

Dear Chair Feldman and Chair Pena-Melnyk:

I am writing to urge your Committees for a favorable report on the Maryland Green Death Care Options Act.

From the perspective of an environmentally conscious Maryland voter with aging parents who live in the State, I believe there is no reason that natural organic reduction (NOR) and water cremation should be withheld as an option from Maryland families. Water cremation and NOR should be available for people who are committed to a greener lifestyle because the environmental impact of conventional funerals is entirely avoidable with these better death care options. With so many other states already proving the science and reliability of these options, Maryland can have no excuse for lagging behind.

Please step up to support this legislation because it's the right thing to do for Maryland families seeking greener alternatives for death care.

Sincerely,

Tracy & Billy Mann  
Chevy Chase, MD

**SB1028\_IndivisibleHoCo\_Indivisible and HoCoClimate.**

Uploaded by: Virginia Smith

Position: FAV



HoCoClimateAction.org  
Howard County, Maryland

**SB1028**

**Human Remains - Alkaline Hydrolysis and Natural Organic Reduction  
(Green Death Care Options Act)**

**Testimony before the Education, Energy, and the Environment**

**Hearing March 5, 2024**

**Position: Favorable**

Dear Chair Feldman and Vice-Chair Kagan, and members of the committee, our names are Peter Alexander and Liz Feighner, and we represent the 750+ members of Indivisible Howard County and HoCo Climate Action, a 350.org local chapter and a grassroots organization representing approximately 1,400 subscribers, respectively. Both organizations are active members of the Maryland Legislative Coalition (with 30,000+ members). We are providing written testimony today **in support of SB1028**. We appreciate the leadership of Senator Waldstreicher in sponsoring this legislation.

Cemetery burials are costly affairs that occupy increasingly valuable land while cremation generates greenhouse gases and other pollutants from an energy-intensive process. Now, "green" burials are available in several states. Seven, including Washington, Colorado, Oregon, California, Vermont, Nevada, and New York allow Natural Organic Reduction and 20 states allow Alkaline Hydrolysis (also known as "water cremation" or "aquamation"). We would like Maryland to add these green burial options to existing Maryland law.

Natural Organic Reduction gently transforms human remains into soil. The resulting soil is safe to be scattered in ornamental gardens and conservation forests. Alkaline hydrolysis is another reduction process in which water, alkaline chemicals, and heat are used to accelerate decomposition. The ash from the process is handled like cremation ash and the resulting liquid effluent, which is 95% water, is safe to discharge like any other wastewater after a pH adjustment. Each of these processes uses 80% less energy than regular cremation. There is a demand for green burials – surveys have shown that 64% of Americans express an interest in them.

SB1028 would amend current law by adding alkaline hydrolysis and natural organic reduction as alternative funeral options for families. It would create regulations developed with help from the Maryland State Board of Morticians and Funeral Directors (BOMFD) and the Maryland Office of Cemetery Oversight (OCO). These two agencies would then administer the licensing of these programs in the same way that they currently regulate crematories. Maryland's funeral industry would be allowed to offer alkaline hydrolysis and natural organic reduction as funeral options at facilities located anywhere in Maryland where local zoning would allow them.

Green burials are safe and environmentally friendly, and Maryland residents should have the option to choose a green burial.

Thank you for your consideration of this legislation.

**We respectfully urge a favorable report.**

Peter Alexander, PhD  
Woodbine, MD 21797

Liz Feighner  
Laurel, MD 2072

**HB 1168-SB 1028-FACT SHEET-V2.02.09.24.pdf**

Uploaded by: Adrian Gardner

Position: FWA

# Maryland's Green Death Care Options Act Questions & Answers (HB 1168/ SB 1028)

## 1. THE BASICS (WHAT & HOW)

**What does this legislation do?** The Green Death Care Options Act (HB 1168 / SB 1028) updates our state funeral laws by adding two (2) proven eco-friendly death care options for Maryland families and consumers:

- **Alkaline hydrolysis (A/H) and**
- **Natural organic reduction (NOR).**

The bill legalizes both methods as alternatives to conventional cremation and burial, and specifies a framework for regulation by the state agencies that currently oversee our death care.

**What is “alkaline hydrolysis” and how does it work?** Alkaline hydrolysis is often called “water cremation,” “flameless cremation” or “Aquamation®” because, instead of incineration, it reduces a body using 95% hot water and 5% alkaline chemicals to produce ashes that are returned to the family. The process employs a stainless-steel vessel with computerized control systems and handling equipment to manage the chemical solution that’s heated with electricity to reach 200-300° F. Typically, about 4 to 12 hours after introducing a body, A/H decomposes everything inside the vessel except inorganic material (*i.e.*, everything except bones, implants), leaving only the calcium from the bones and a sterile liquid effluent that is mostly water and totally safe for a recycling process.

**What is “natural organic reduction” and how does it work?** NOR gently transforms human remains into soil in 4-6 weeks. The process also uses a large vessel to hold human remains that are combined with straw, wood chips, and other natural materials. The natural decomposing process creates heat of over 131°F, which kills viruses, bacteria, and pathogens, and exceeds EPA requirements for heavy metals, which are stabilized in the soil, not volatilized. The resulting soil is safe for ornamental gardens, trees and scattering.

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## 2. MORE ABOUT ALKALINE HYDROLYSIS (A/H)

**Is A/H being used anywhere else?** Yes. More than 20 states have legalized alkaline hydrolysis and some Maryland families hire funeral homes in North Carolina to procure the service. Until a recent opinion by Maryland’s Office of the Attorney General ([108 OAG 121](#)), dozens of national death care groups, experts and lawyers thought it was already legal in Maryland.

**Is it safe?** Yes. The US Trademark Office issued the first patent for this process in 1888. More recently, a 2019 validation study by NIH showed the combination of water, heat and chemicals deployed for A/H is an extremely effective method of sterilizing human infectious agents and breaking-down tissue.

### **What are the benefits of A/H?**

- The primary benefit is the ability to offer Maryland consumers **additional options after death**.
- A/H **uses about 90% less energy than flame-based cremation**, which cuts fossil fuel and other GHG emissions, consistent with Maryland’s Climate Pathway goals.

**Is there a demand?** Yes. Surveys show that 64% of Americans consistently express an interest in green funeral options, and favorable testimony last year suggests that consumers and funeral providers in Maryland have the same interests.

**Has it been tested and validated scientifically?** Yes. For example, a 2019 report by NIH demonstrated a “[c]omplete inactivation of [*G stearothermophilus* and *B thuringiensis*] spores and digestion

of animal tissue” leaving “[n]o peptide fragments larger than 2500 Da [retained] in the effluent.” That study concludes the process “exceeded the...sterility requirements for animal biosafety level–3 and –4 facilities [and] validated destruction of prion-sized particles.” As indicated above, A/H is an exceptionally effective method of sterilizing human infectious agents and breaking-down tissue.

**Where would A/H facilities be located?** In other states and countries, equipment for A/H is installed inside of funeral homes, crematories and cemeteries. In Maryland, after licensing by the proper state agency, those businesses could locate in commercial spaces only after meeting local zoning and permit requirements. At the same time, with no emissions from combustion, air pollution permits are not required.

**What happens to the ashes?** Although A/H leaves about 20-30% more ashes because nothing is incinerated, a family is free to handle them in the same ways as conventional cremated remains. For example, they may decide to scatter the ashes according to existing laws, inurn them in a columbarium niche at a cemetery, bury them in a grave or compress them into memorial stones.

**What happens to the byproducts?** For a conventional crematory, a smokestack emits biproducts that include greenhouse gases (including CO<sub>2</sub>), mercury, volatile organic compounds, particulate matter and fine dust. With A/H, besides prosthetic joints, pacemakers or other inorganic medical devices implanted in a body, the process yields a biproduct which the Cremation Association of North America describes as:

“a neutral liquid called effluent [that’s] sterile, and contains salts, sugars, amino acids and peptides [normally] discharged with all other wastewater, and is a welcome addition to the water systems.”

**Is it suitable for every situation?** Yes (pretty much). With appropriate personal safety measures, A/H can be used to cremate remains even after embalming or with risky diseases because the process is so proven at destroying pathogens and reducing chemical compounds to innocuous components.

**How would regulation work under the bill?** The bill piggy-backs on the existing regulatory process for crematories by authorizing the Board of Morticians and Funeral Directors (BOMFD) and Maryland Office of Cemetery Oversight (OCO) to permit crematories to offer A/H, conventional cremation, or both. Although different equipment is involved in the process, the requirements for authorization, chain-of-custody record keeping and the proper respect for remains are almost identical. The same state agencies would share responsibility to promulgate regulations, and for their inspection and enforcement.

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### **3. MORE ABOUT NATURAL ORGANIC REDUCTION (NOR)**

**Is Natural Organic Reduction used anywhere else?** Yes. Seven states have legalized the process: Washington (2019), Colorado (2021), Oregon (2021), Vermont (2022), California (2022), New York (2022) and Nevada (2023). Several other states currently have legislation pending to authorize NOR, including the bill passed last month by Delaware’s House of Representatives. Maryland is behind the curve.

**Is it safe?** Yes. The process kills most ordinary bacteria and viruses, including COVID-19, for example.

**Does it smell?** The NOR process does not smell. Microorganisms present in the process break down odorous gases into water and CO<sub>2</sub>. In addition, biofilters and mechanical ventilation are used to aerate the process and ensure that no trace of odor is emitted.

**Has NOR been tested and validated scientifically?** Yes. Research at Western Carolina University and Washington State University (WSU) has demonstrated the viability of NOR as a natural method for the disposition of human remains, and WSU’s Soil Science Department conducted a pilot study which proved the safety and efficacy of the process. Long before it was ever applied to human bodies, farmers also safely used mortality composting and universities have tested it exhaustively.

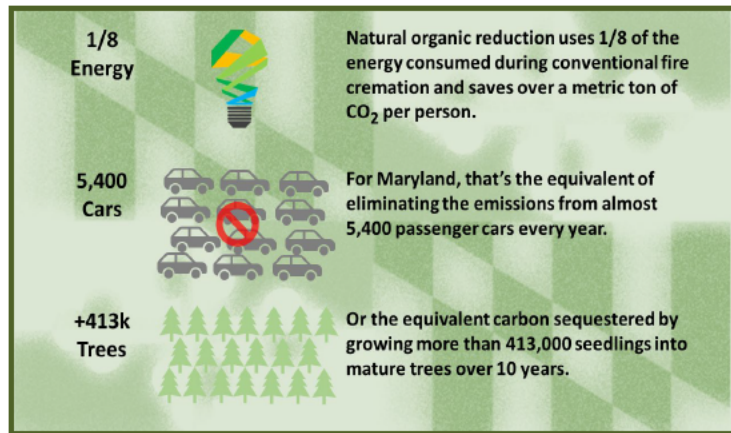
## What are the benefits of NOR?

- The primary benefit is the ability to offer consumers **additional options after death**.
- With significant **savings in fossil fuel emissions and land use**, NOR addresses the increasing demand for more sustainable alternatives.

## Is there a demand for NOR? Yes.

Nearly 2/3rds of Americans (64%) consistently express an interest in green burial options, indicating a need for sustainable and affordable alternatives.

Hundreds of customers prepaid funeral homes for NOR in the State of Washington, starting even before the process was legalized.



**What happens to the soil after NOR?** Much like the choices people have with cremated remains, with appropriate owner's consent, families will choose the best place for resting the soil created in this process. They might choose to plant a tree or garden, for example, in a special family plot. After several suggestions, however, this bill expressly **prohibits** selling any NOR soil or using it to grow food for humans or livestock.

**Where would NOR facilities be located?** Facilities meeting state permitting and licensing requirements could be located anywhere in Maryland where the local zoning allows it.

**Is NOR suitable for every situation?** No. Remains that have been embalmed are not viable candidates for NOR because the chemicals involved will delay the decomposition process. Also, NOR is not indicated in cases that involve Ebola, prion or other risky diseases. This bill expressly **prohibits** the use of NOR in those cases and other situations where public health officials indicate it would be inappropriate.

**What happens to heavy metals like mercury?** NOR helps to ensure that mercury remains stabilized in the soil, rather than being volatilized. (Volatilized mercury from cremation accounts for a significant amount of mercury released into the atmosphere.) Research by WSU showed that, heavy metals in the soil reduced by NOR, including arsenic, cadmium, copper, zinc, lead, and mercury, were all well under EPA limits.

**What happens to pharmaceuticals?** Because current funeral practices are not required to account for drug concentrations, very little is known about pharmaceutical agents in human cadavers. However, it is known that most medications are metabolized or excreted from the body within a few hours after ingestion, so concentrations in cadavers are likely low. Unlike cremation and burial, NOR breaks down many of the pharmaceuticals that do remain in the body after death. The research completed to date showed a 95% reduction of tracked pharmaceuticals.

**How would NOR regulations work under the bill?** The bill creates a separate category of funeral disposition for NOR that mirrors the existing framework for cremation. Specifically, just like cremation, the BOMFD and OCO would jointly promulgate new regulations, establish minimum training requirements, oversee licensing or permitting NOR facilities under their respective jurisdictions, as well as inspect and enforce rules to protect the public. In particular, even though different equipment and processing of the body are involved in NOR, the bill anticipates comparable requirements for authorizing NOR, chain-of-custody and record keeping for the process, as well as due respect for remains being processed.



#### **4. MORE ABOUT THE BILL**

**What about the existing funeral industry?** The bill is good for the industry. It gives crematories and funeral homes new options and it was developed with extensive input from the Maryland’s Board of Morticians and Funeral Directors (BOMFD), the Maryland State Funeral Directors Association (MSFDA) and Office of Cemetery Oversight (OCO). In fact, the BOMFD recommended that the bill add legalization for alkaline hydrolysis in addition to NOR. With growing consumer interest in sustainable alternatives, this legislation simply provides another opportunity for existing businesses to expand their scope of services.

**Are any Maryland funeral homes planning to offer A/H or NOR?** Yes. Green Legacy is a local start-up co-founded by a licensed mortician who’s supporting the bill. The company is planning to launch a full-service funeral home in Montgomery County that will earn Green Burial Council certification. After licensing, Green Legacy says it will become Maryland’s first provider to specialize in Aquamation®, NOR and other funeral care options that are “radically compassionate.” Other industry participants from inside and outside Maryland have also expressed similar support for the bill and interests in providing these new options in our state.

**Will there be any fiscal impact?** No. Last year, DLS scored a bill for NOR with a zero-fiscal impact because BOMFD and OCO could promulgate new regulations with existing resources. Based on the experience for NOR in Washington State and an estimate provided to OCO by an equipment manufacturer, after new regulations are in place, Green Legacy thinks it’s highly unlikely that more half-a-dozen new A/H or NOR facilities would come online within the first three to five years after enactment. For that reason, the added demand for inspection and enforcement should be negligible.

**Is there any value in waiting for further study or research?** Why should Maryland fall behind other states? Alkaline hydrolysis has been in active use in more than 20 other states for many years. NOR was developed from applied science and principles of urban planning, supported by research studies carried out over the past ten years. Since 2019, NOR has blossomed into accepted funerary practice – it was even featured last year by the National Association Funeral Directors (NFDA) as part of its “Cremation Success” seminar. Seven other states have already adopted laws to legalize NOR – and Delaware is poised to do so – because it gives families and funeral businesses more options. There’s no good reason to wait.

**Contact:** [Lily Buerkle | lily@greenlegacy.com](mailto:lily@greenlegacy.com)  
[Adrian Gardner | adrian@greenlegacy.com](mailto:adrian@greenlegacy.com)

**Green Legacy Brands LLC**  
**8403 Colesville Road, Suite 1100**  
**Silver Spring, Maryland 20910**

#### **Access to bills online:**

- [HB 1168 – Green Death Care Options Act](#)
- [SB 1028 – Green Death Care Options Act](#)

# # #

**Maryland Catholic Conference\_UNF\_SB1028.pdf**

Uploaded by: Diane Arias

Position: UNF



MARYLAND  
CATHOLIC  
CONFERENCE

March 5, 2024

**Senate Bill 1028**

**Human Remains - Alkaline Hydrolysis and Natural Organic Reduction (Green Death Care Options Act)**

**Senate Education, Energy, and the Environment Committee**

**Position: Unfavorable**

The Maryland Catholic Conference (MCC) is the public policy representative of the three (arch)dioceses serving Maryland, which together encompass over one million Marylanders. Statewide, their parishes, schools, hospitals, and numerous charities combine to form our state's second largest social service provider network, behind only our state government.

**Senate Bill 1028** establishes a regulatory system for reduction operators and reduction facilities; establishes requirements and prohibitions related to the performance of alkaline hydrolysis and natural organic reduction and the disposition of hydrolyzed or soil remains by certain facilities; requires the Director of the State Board of Morticians and Funeral Directors to adopt regulations governing the performance of natural organic reduction; prohibits a person from using or disposing of soil remains produced by natural organic reduction in a certain manner, including by using the soil to grow food for consumption by humans or livestock; and generally relating to alkaline hydrolysis and natural organic reduction.

The Natural Organic Reduction (NOR) process reduces the human body to a disposable commodity. The practice of respectfully burying the bodies or the honoring of ashes of the deceased aligns with the virtually universal norm of reverence and care towards the deceased. NOR uses essentially the same process as a home gardening composting system: rotating the remains, maintaining controlled temperatures and adding accelerating chemicals to accelerate the breakdown of the body of the deceased. NOR and other processes, like alkaline hydrolysis, were initially developed for the disposal of livestock, not as a means of human burial. These methods of disposal were used to lessen the possibility of disease being transmitted by the dead carcass and is not necessary for the decomposition of human bodies.

Dispersing the remains in public locations, without an advisory to members of the public, risks people treading over human remains without their knowledge. The "savings" in CO<sub>2</sub> emissions offered in support of the process is easily offset by alternative means of remembrance. A

simple burial or cremation, for instance, maintains the dignity of the deceased while avoiding the potential of the public not being aware of the presence of human remains in public locations.

For these reasons, the MCC asks for an unfavorable report on **SB 1028**.

Thank you for your consideration.