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DEPARTMENT OF HEALTH
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WRITTEN
TESTIMONY ONLY

**Testimony COMMENTING on SR0141/SCR0172
REQUESTING THE DEPARTMENT OF HEALTH TO CONVENE A DEMOLITION
WASTE REDUCTION WORKING GROUP.**

SENATOR JOY A. SAN BUENAVENTURA, CHAIR
SENATE COMMITTEE ON HEALTH AND HUMAN SERVICES

March 28, 2025; 1:00 P.M.; Room Number: 225

1 **Fiscal Implications:** This resolution will impact the priorities identified in the Governor's
2 Executive Budget Request for the Department of Health's (Department) appropriations and
3 personnel priorities.

4 **Department Position:** The Department offers the following comments.

5 **Department Testimony:** The Environmental Management Division, Solid and Hazardous Waste
6 Branch (EMD-SHWB) provides the following testimony on behalf of the Department.

7 The Department supports the idea of ensuring alternative waste management options,
8 especially given the pending closure of Oahu's construction and demolition waste landfill, and
9 strongly support source reduction and circular economies as preferable approaches.

10 However, we are currently committed to conduct four (4) studies that include a
11 statewide waste characterization study and two deposit beverage container rate studies in the
12 next two (2) years. Furthermore, based on remaining active measures, we may be required to
13 concurrently conduct or participate in two (2) additional working groups.

14 In addition, we lack the planning staff available to conduct another working group. We
15 generally have one (1) position identified for solid waste planning and that position is currently

1 vacant. We recognize that solid waste planning is important, and have initiated a branch
2 reorganization so that a planning section with a staff of three (3) can be created to provide
3 greater emphasis on this priority. Until the reorganization is completed, additional positions
4 cannot be created.

5 Given our resource constraints, we will not be able to fulfill this resolution without
6 funding for contract services. If funding and resources are provided, we prefer to first focus on
7 the pending closure of the construction demolition landfill, through evaluation of existing
8 alternative management options which prioritize source reduction and recycling approaches to
9 address immediate needs.

10 **Offered Amendments:** None

11 Thank you for the opportunity to testify on this concurrent resolution.

Comments before
March 21, 2025
Senate Committee on
Health and Human Services

**IN SUPPORT OF
Senate Concurrent Resolution 172 and
Senate Resolution 141**

Relating to Construction & Demolition (C&D) Waste

Mike Ewall, Esq.
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Energy Justice Network
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Aloha Honorable Committee members. Energy Justice Network is a national organization supporting grassroots groups working to transition their communities from polluting and harmful energy and waste management practices to clean energy and zero waste solutions. In Hawai'i, we've been working with residents who first sought our support in 2015. Since mid-2022, we have supported residents in forming the Hawai'i Clean Power Task Force and Kōkua nā 'Āina to address numerous energy and waste issues in the state.

We support these resolutions and would like to see them strengthened as follows:

1) Amend the first resolved to read:

“(1) Identify and implement solutions to reduce construction and demolition waste statewide that are compatible with the internationally peer-reviewed [Zero Waste Hierarchy](#) as codified by the [Zero Waste International Alliance](#).”

2) Specify that reducing construction and demolition waste must be through source reduction, reuse, and recycling, and not through destructive high-temperature processes such as pyrolysis, gasification, or conventional incineration.

3) Add a member from [Zero Waste USA](#) and/or [Build Reuse](#).

4) Rename the working group from “Demolition Waste Reduction Working Group” to “Construction and Demolition Waste Reduction Working Group.”

5) Add to their working group’s mandate to study how to build the market for reused and recycled building materials in new building and renovation.

Please find additional resources on the topic here and in the following overview:

www.energyjustice.net/waste/cd

The following two 2-pagers outline the benefits of deconstruction and the toxic hazards associated with incineration/pyrolysis/gasification of construction and demolition (C&D) waste. We urge you to review them and recognize that these incineration technologies are unsafe and inappropriate ways to make this waste stream “go away.”

Benefits of Deconstruction

- Workforce development
- Economic driver with small business start ups
- Increase materials salvaged for use in the circular economy in reuse stores
- Minimizes health impacts to toxins in the air, water, and soil

Economics

Reclaiming materials affects the economy by creating jobs, job training, and markets for materials. It cuts down on the need for harvesting new materials like timber, and removes the need for landfill space. Reclaiming materials reduces carbon dioxide and other emissions. The benefits are often called a **triple bottom line** economy by creating jobs, markets, and sustainable environmental practices.

The triple bottom line – environmental, economic, community – benefits of deconstruction is well documented. According to the Delta Institute, deconstruction can offer several environmental, economic and community benefits for communities with high vacancy rates and unemployment. Those benefits include:

Environmental benefits

- Reduced toxic dust from job sites
- Reduced heavy metal leaching into soil
- Reduced waste to landfills
- Reduced consumption of virgin material

Economic benefits

- Jobs from removing structures via deconstruction versus demolition
- Jobs for the hard-to-employ
- Resale of building materials
- Sale of value-added products

Social benefits

- Removal of blight
- Potential workforce development partnerships
- Potential for workforce training and contractor training
- Potential for local reclaimed materials to be used in restoration and preservation of older and historic structures.

Deconstruction is an employment multiplier:

The workforce potential of deconstruction does not end at the direct jobs on the job site. The deconstruction field offers a higher employment multiplier than demolition. There are more indirect jobs that emerge related to deconstruction as salvaged materials are transported offsite. These include warehouse jobs, retail and sales jobs, and value-added manufacturing jobs as a result of “upcycling” of the salvaged materials. Additionally, these indirect industries provide additional workforce development and training opportunities. The combined direct and indirect offer more induced jobs that are a result of the direct/indirect wages spent in the local economy.

HEALTH IMPACTS

Lead, as well as other chemical pollutants from construction sites, such as asbestos, crystalline silica, mercury, and arsenic, can also soak into the surrounding soil. This has the potential to contaminate groundwater supply and drinking water which can cause serious health issues, including cancer, if ingested. Deconstruction offers a way of mitigating these hazards. Removal of building parts piece by piece means hazardous materials remain largely intact. Processes like planning to remove lead paint and denailing are done at a warehouse in a controlled environment, avoiding contamination at the building site. Contact with hazardous materials occurs in building removal no matter what, but studies show less risk for airborne and ground seeping hazards when homes are deconstructed rather than demolished.

Buildings contain a lot of materials that when pulverized and put into air, water or soil, can make people sick. On a massive scale, the destruction of the World Trade Towers led to injury, [chronic illness](#) and death in many people exposed to the toxic dust that the manmade disaster caused.

Demolition of buildings can generate unhealthy exposures for residents and workers. A European study estimated that demolitions composed about [1/6 of the total waste stream](#). A major air pollutant from demolition of concern is [particulate matter](#), an important cause of increased mortality, lung and cardiovascular disease and lung cancer. Increases in [silica](#) exposure occur with demolition and silica is associated with lung diseases like silicosis, chronic obstructive lung disease as well as lung cancer. As [one study](#) concluded “workers and bystanders are exposed to high short-term peak exposures for which occupational standards do not exist. Asbestos is a cancer causing fiber found in buildings from roof, insulation piping and flooring and has been documented to still be present [even after abatement](#) of asbestos was completed. This is alarming because it is established that asbestos causes mesothelioma which is a cancer of the chest and abdominal linings of the body and cancer of the lung. It is a probable cause of cancer of the larynx, and ovary. Arsenic and chromium, also found in [demolition dust](#), are both associated with increased risk of [lung cancer](#) with occupational exposure.

Lead is perhaps the most worrisome heavy metal found in demolition dust. One [Chicago study](#) found a 31-fold increase in lead dust at demolition sites. Wetting the site before and during demolition reduces the lead dust fall in the surrounding neighborhood significantly but raises the question of what happens to the lead after it is wetted? Lead is especially toxic to children’s brains and there is no safe level. In addition to lead, chemical exposures like brominated flame retardants (PBDE) are “forever” chemicals, and [health concerns include](#) endocrine disruption, neurotoxicity and increasing risk of cancer. Both are [examples of neurotoxins](#) that potentially by reducing IQ can lead to significant lifetime losses of income after in utero (PBDE) and childhood (lead) exposure. Although better regulations have led to a drop in blood lead levels over time, demolition of older homes with legacy chemicals built before regulations restricted their use, may still be a source of this contaminated and dangerous dust.

In summary, there are health hazards to workers and residents in the dust generated by demolishing old buildings. In addition to contaminated dust, there are other concerns from demolition site waste (run off waste wetted down, waste taken to landfills, waste burned in incinerators). Abatement is only a partial solution. Deconstruction avoids many of these hazards.

Toxicity Concerns with C&D Waste Incineration/Pyrolysis/Gasification

There are at least two companies in Hawai'i seeking to use incinerator-like technologies (gasification and pyrolysis) to ultimately burn off gases from construction and demolition debris while trying to make burnable aviation fuels, hydrogen, "green" cement and/or "biochar." These waste-to-fuels (WTF) technologies start with pyrolysis or gasification – technologies that, when the resulting gases are burned, are [defined and regulated](#) by EPA as municipal waste combustors (waste incinerators).

These are toxic and dangerous technologies that are experimental and often fail both technically and economically. When fuels are burned off-site in land vehicles or for air travel, they are not subject to the sorts of air pollution controls that can be applied to a centralized facility with a single smokestack. Even when such a facility burns the gasified waste on-site with the full complement of air pollution control devices, waste incineration is still [dirtier](#) than burning coal for the climate as well as for most other air pollutants. This is even *with* all four air pollution control systems that waste incinerators should have (note that H-POWER's two older burners are missing half of these four control systems, though their third burner has all four).

Unlike coal, construction and demolition (C&D) waste is very heterogenous, which can be comprised of steel, concrete, brick, lumber, plaster, empty paint cans, asphalt, wire, shingles, and much more. Pyrolysis and gasification technologies do not work well on heterogenous fuels. They break down constantly and operate only in batches. These finicky technologies require very homogenous fuels. Even those trying to process scrap tires fail repeatedly, because tires are not homogenous enough for pyrolysis. Even the nation's top cheerleader for tire burning, a spokesperson for the Rubber Manufacturers Association, once stated that "scores of start-ups have tried and failed to make money from tire pyrolysis. The road is littered with the carnage of people who were trying to make this technology viable."

These technologies have been unable to operate at commercial scale, and typically are garage-scale pilot projects that go nowhere. This trend has led the nation's leading incinerator-promoting solid waste consulting outfit, GBB, to [classify](#) the technology as "high" risk due to "previous failures at scale, uncertain commercial potential; no operating experience with large-scale operations" (pyrolysis) and "limited operating experience at only small scale; subject to scale-up issues" (gasification).

Hawai'i has been targeted in recent years by quite a few fly-by-night companies aiming to cash in on state and federal subsidies to satisfy the desire for sustainable aviation fuels while making waste streams go "away." Companies like Aloha Carbon and Yummet prey upon uninformed public officials who don't have time to research the track record of this industry, the toxic hazards associated with it, or the better alternatives.

Regarding toxic hazards, please see this heavily-cited (92 footnotes) six-page overview I wrote on the [toxic pollution issues associated with construction and demolition \(C&D\) waste incineration](#). While the paper focuses on direct incineration, many of the same principles apply, as the high

temperature processes used in WTF technologies still release toxic metals while producing new toxic pollutants such as [dioxins and furans](#), the most toxic chemicals known to science.

C&D waste contains many toxic ingredients. There are chlorine sources in wood treatment chemicals like pentachlorophenol, and in PVC plastics in C&D waste. Painted wood can contain lead and mercury, while treated wood can contain other toxic metals, namely arsenic, chromium, and copper. [Testimony](#) on the House companion bill from the Hawaii Natural Energy Institute (on pages 43-44 of the testimony packet), affirms high levels of arsenic, chromium and lead in C&D waste, with arsenic concentrations 200 times higher than clean wood. Their research also shows high levels of hydrochloric acid, copper and zinc from C&D waste, but doesn't point out a significant conclusion about this – that numerous [published studies](#) show that copper and zinc serve as catalysts for dioxin formation. [Dioxins](#) are the most toxic chemicals known to science and are formed in processes like those used to make these “sustainable” aviation fuels, where you have hydrocarbons, halogens like chlorine, and medium-high temperatures that are perfect for dioxin formation. These ultratoxic chemicals rapidly bioaccumulate and concentrate in meat and dairy products where 92% of human exposure comes from. Even if these emissions are blown out to sea, they concentrate and come back in the form of seafood.



Environmental Caucus of The Democratic Party of Hawai'i

March 24, 2025

Testimony in Support of SR141/SCR172 - Demolition Waste Reduction Working Group

To: Chair Joy A. San Buenaventura, Vice Chair Henry J.C. Aquino, and Members of the Committee on Health and Human Services

Date: Friday, March 28, 2025, **Time:** 1:00 p.m.

Place: Conference Room 225 & Videoconference

Aloha Chair San Buenaventura, Vice Chair Aquino, and Members of the Committee:

The Environmental Caucus of the Democratic Party of Hawaii submits this testimony in strong support of SR141/SCR172, requesting the Department of Health to convene a demolition waste reduction working group.

Key Points in Support:

1. **Environmental Impact:** Construction and demolition waste accounts for a significant portion of Hawaii's landfill usage, contributing to environmental degradation and the depletion of finite landfill space. Establishing a working group to address waste reduction is a proactive step toward sustainable waste management practices.
2. **Resource Recovery:** By focusing on demolition waste reduction, the working group can explore strategies for resource recovery, such as recycling concrete, wood, and metals, which can be repurposed for new construction projects.
3. **Economic Benefits:** Implementing waste reduction measures can lower disposal costs for contractors and developers while creating opportunities for green businesses specializing in recycling and reuse.
4. **Community Health:** Reducing demolition waste minimizes the release of harmful pollutants and particulate matter, improving air quality and protecting public health.
5. **Alignment with State Goals:** This initiative supports Hawaii's commitment to sustainability and aligns with the state's goals to reduce waste and promote a circular economy.

We commend the Department of Health for taking the lead in convening this working group and urge the committee to advance SR141/SCR172 to ensure Hawaii continues to prioritize environmental stewardship and sustainable development practices.

Mahalo for the opportunity to provide this testimony.

Sincerely,

Melodie Aduja and Alan Burdick

Co-chairs, Environmental Caucus of the Democratic Party of Hawaii



March 25, 2024

Aloha Health and Human Services Committee
Chair Rep. Buenaventura & Vice Chair Rep. Aquino

Organization Testimony in Support of SR141
Health and Human Services Committee

Aloha Health and Human Services Committee
Chair Rep. Buenaventura
Vice Chair Rep. Aquino

Honorable Members of the Committee,

Re-use Hawai'i is a nonprofit organization dedicated to addressing Hawai'i's waste management challenges by keeping building materials out of landfills and fostering a circular economy.

Re-use Hawaii strongly supports SR141 to establish a Construction and Demolition Waste Reduction Working Group. Hawaii urgently needs innovative and sustainable solutions to address growing construction and demolition waste challenges. By bringing together stakeholders and experts, this initiative can help develop practical strategies that protect our environment and improve the well-being of our communities. With landfill capacity rapidly diminishing, we must proactively reduce waste and promote responsible material reuse.

At our Deconstruction Forum this year, we heard firsthand from Nānākuli residents who have suffered severe health impacts due to prolonged exposure to landfill-related pollution. Their experiences underscore the urgent need for inclusive and equitable decision-making processes prioritizing public health. As landfill policies continue to shift in response to community concerns, a collective and informed voice will empower decision-makers to implement sustainable waste management solutions that serve the environment and Hawai'i's people.

We strongly support SR141 and are eager to continue serving our community to help build a stronger, more sustainable future for Hawai'i's workforce and industries.

Mahalo nui loa,

Quinn Vittum
Executive Director
Re-use Hawai'i