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## Testimony in Opposition to HB 4167

February 20, 2020

Submitted by: Curtis Lesslie, VP Environmental Affairs, Ash Grove Cement Co.

Chair Holvey and members of the Oregon House Committee on Rules, the Ash Grove Cement Company respectfully submits the following comments in opposition to HB 4167. Our written submission includes deficiencies we have identified that we respectfully request that you consider. Adopting a statutory Oregon state cap and trade program will have the unintended consequence of increasing carbon emissions. The effect of this policy in relation to our plant alone could be to increase CO<sub>2</sub> emissions by roughly 417,000 tons per year.

### Why we oppose HB 4167

In recent years as carbon policies have been discussed, Ash Grove has laid out a clear description of how Oregon's sole cement manufacturing plant is energy intensive and trade exposed under the carbon reduction policy in this legislation. Additionally, we are concerned regarding the lack of planning for or investment in infrastructure to transport and sequester carbon emissions, should add-on carbon control technology become available for industrial sources. For production facilities with irreducible process related emissions, only a small fraction of total stack emissions can be reduced through efficiency innovations or fuel switching. The vast majority of the Durkee plant's total stack emissions are process emissions. While add-on control technologies are being evaluated globally by the cement industry, there currently exists no known controls. That said, should a technology become available, Oregon is unprepared to take the next steps – transportation to a sequestration site for the carbon dioxide removed from the stack and sequestration sites are not available in the state and should be part of the planning and implementation process. From our perspective, this bill is woefully incomplete from a real-world application perspective. The message being sent is that local cement manufacturing is not wanted in Oregon and all of the local market should be supplied by foreign producers.

Ash Grove Cement is a 137-year old company, and its 116 employees operate Oregon's only cement manufacturing plant. The plant complies with all applicable state and federal regulations governing safety, environment and labor. Our plant is among the most energy efficient cement plants in America. Approximately 80 of the employees are members of the following unions: International Association of Machinists and Aerospace Workers, District Lodge No. 24, Willamette Lodge No. 63, AFL-CIO; International Brotherhood of Electrical Workers Local 112, AFL-CIO; Teamsters Food Processors, Chauffeurs, Warehousemen and Helpers Local No. 670; Laborers Local No. 12; and International Union of Operating Engineers Local No. 701. Our

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employees, as well as the community, share our concern with the carbon policy under consideration.

Cement manufacturing requires that crushed limestone and other raw materials be heated to temperatures up to 2000°F to cause the chemical reaction necessary to create the desired cement compounds. Making cement essentially consists of taking a molecule of  $\text{CaCO}_3$  (limestone) and heating it until it converts to  $\text{CaO}$  (lime). In other words, making cement requires the liberation of  $\text{CO}_2$  from limestone. There is currently no process alteration or other technical solution available to prevent the release of  $\text{CO}_2$  in heating limestone to make cement. This is true regardless of where the cement is produced, or the fuel efficiency of the process used to produce it.

Ash Grove's Durkee plant is a trade exposed industry. It costs roughly the same amount to ship a ton of cement from China to Portland as it does to ship that same ton from Durkee to Portland. China is awash in excess cement manufacturing capacity, having more than 15 times the production capacity of the U.S. Cement is considered a true commodity in that foreign cement meeting ASTM standards is largely indistinguishable from Oregon-made cement meeting ASTM standards. As a result, we compete daily with cement made in foreign countries that is imported to the Port of Portland. The foreign manufacturers do not have the same costs for labor, fuel and raw materials, nor do they have the environmental, safety and labor regulations required of U.S. manufacturers, thus imported cement is less expensive to produce. Adding costs to the cement manufactured in Oregon by levying a carbon tax, or by imposing a cap & trade system, will cause cement made in Oregon to be even less competitive with imported cement.

Carbon policies mirroring California or British Columbia cannot be replicated in Oregon without driving out the only local cement production facility. Those 116 jobs in Durkee will be lost permanently if the carbon policies under discussion are applied to Oregon cement operations.

In addition to job loss in Oregon, the unintended consequences of this policy will be a net increase rather than a decrease in global carbon dioxide emissions. Manufacturing cement requires a lot of electricity. The vast majority of Chinese electricity is generated from coal. Not so in Oregon. Shipping cement from China may be cheap, but not for the environment. Shipping one single ton of cement from China to Oregon results in almost 700 lbs. of  $\text{CO}_2$ . Every time a ton of Chinese cement is used in Oregon instead of Oregon-made cement, the environment sees roughly 760 lbs. of  $\text{CO}_2$  that would not occur if that ton of cement were made in Oregon. If the manufacturing capacity at Durkee is lost to Chinese competition because of a carbon tax or cap and trade program, then, in addition to the loss of approximately 80 union jobs, global emissions of  $\text{CO}_2$  will increase by more than 417,000 tons per year.

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This policy initiative lacks an investment in infrastructure or research and development to promote capture, transport and sequestration of carbon emissions. While the United States' most significant demonstration project for carbon sequestration has been halted (Mississippi power plant \$3 billion), a similar project would cost almost 15 times the cost of the Durkee plant when new. And Oregon statutes do not permit injection. The state has no provisions in this bill to create, fund or maintain such infrastructure even if the technology to capture carbon were proven at commercial use scale.

Our concerns about using natural gas exclusively have been validated in 2019 with periods of curtailment required for gas users dependent upon a pipeline that at times cannot supply fuel. We are concerned that the stability of natural gas prices will vanish as demand increases, and with that significantly higher prices will result in unsustainable cement production costs.

We urge you to consider very carefully what you are trying to achieve and the net effect that proceeding with carbon regulation will have on energy intensive trade exposed industries in the state. A cap and trade program will serve to increase emissions in countries where emissions are not highly regulated, and it will destroy domestic jobs that sustain Oregon families and export those jobs to countries where worker safety is not protected and where workers lack the economic advantages that we offer in the United States.

Over the years, our employees have expressed frustration over the use of non-domestic cement being used in highways and bridges in the state. Imagine the concern they have for their futures and their families if this policy is adopted. There should be no rush to end the tradition of Oregon made cement by enacting ill-conceived policy, nor should there be a rush to boost global carbon emissions by increasing the quantity of imported cement. We urge you to seriously consider our comments and reject this policy or modify it to exempt Ash Grove's Durkee plant and other energy intensive trade exposed industries in Oregon from this policy.

**Specific requested changes to HB 4167—Use SB 1530 -36 amendments for HB 4167 with the following changes:**

**Background:** Currently as drafted Section 24 requires Ash Grove to perform an energy management system audit (energy audit) every 5 years and implement improvements in order to qualify for free allowances equal to natural gas combustion emissions. However, neither Section 24 nor Section 50(4), which is referred to in Section 24, explicitly tie the energy audit to natural gas combustion, adequately identify the scope of that audit or integrate the audit into the benchmarking process.

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Issues: This is problematic because Sections 24 and 50(4) could be interpreted to require Ash Grove to have to implement facility improvements that have nothing to do with the natural gas combustion systems and could require changes that are cost-prohibitive, experimental or even illegal under other programs. Ash Grove could also be required to implement changes that would change the characteristics of their product or present technical issues. In addition, the energy audit process is completely divorced from the benchmarking process even though the two processes would be assessing some of the same pieces of equipment (leading to gross inefficiencies and conflicts).

Solution: A potential solution as reflected in the SB 1530 -36 amendments would improve clarity on the scope of the energy audit program and make it work in concert with the benchmarking process. These improvements include:

- Clarifying that to qualify for free allowances for natural gas combustion emissions, an EITE must implement the energy audit findings relating to the natural gas combustion system.
- Providing certainty that the cost of improvements that would be required is not unlimited (using a standard EPA metric).
- Providing certainty that the energy audit will only require the installation of demonstrated technologies (no requirement to engage in science experiments) that will not cause legal or product quality issues.
- Coordinating the energy audit process with the benchmarking process so that the two processes can work in tandem to minimize greenhouse gas emissions.

These commonsense improvements will make the energy audit more practical, understandable and effective.

Changes necessary to the SB 1530 -36 amendments:

- Line 4: We are concerned about the use of the term “related to natural gas use.” Many things may be considered “related to.” We are also concerned about natural gas “use” rather than natural gas “combustion.” While some EITEs use natural gas as a feedstock, Section 24 relates to the use of natural gas for combustion purposes (feedstock usage is covered under Section 20). We suggest revising this line as follows:

(i) ~~Are related to~~ Improve the efficiency of natural gas combustion use;

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- Lines 5-7: Add the following sideboard (the 3% is not random, but the allowance used by EPA in relation to cement plants for New Source Performance Standards to distinguish routine maintenance from a significant modification):

**(ii) In the aggregate, will not result in costs to the EITE entity that exceed a total limit established by the office by rule for costs associated with required efficiency improvements, such limit not to exceed 3 percent of the facility's basis; and**

- Lines 8-11: Two different aspects of the program were mixed into one and the result makes no sense. Subsection (B)(iii) should consist of just the following:

**(iii) Have a payback period of five years or less.**

We then need a new Subsection (C) which reads:

**(C) The implementation plan includes a schedule for completing the required efficiency improvements by two years after the date of the audit, or by a reasonable extension date if the office determines that additional time is reasonable and necessary for the EITE entity to complete the efficiency improvements.**

- Line 18: Change the life to the audit to match the life of the benchmark, given that those programs are inextricably linked for most sources. This would require the following revision:

**In line 35, delete “(d)” and insert “(e)” and delete the word “five” and insert “nine”.**

Thank you for your consideration. We appreciate the opportunity to provide written comment on this proposal and hope you will seriously consider our opposition and our requested changes as further deliberations take place on this extremely significant legislative policy/program.

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## Carbon Footprint of Imported Cement

### Chinese Electricity Generation

Fuel Source	%	CO <sub>2</sub> (kg/MMBtu)
Coal	63	95.52
Oil	2	75.1
Natural Gas	4	53.06
Hydro	22	0
Nuclear	1	0
Renewables	8	0
Weighted EF:		63.4

### Idaho Power

Fuel Source	%	CO <sub>2</sub> (kg/MMBtu)
Coal	35.1	95.52
Oil	0.5	75.1
Natural Gas	7.7	53.06
Hydro	43.2	0
Nuclear	0	0
Renewables	13.4	0
Weighted EF:		38.0

China Electricity Generation Fuel Mix from US Energy Information Administration



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## Carbon Footprint of Imported Cement

	Chinese Cement (lb/ton cement)	Durkee Cement (lb/ton cement)	Additional CO <sub>2</sub> Due to Import (lb/ton cement)
Electricity	159.5	95.1	64.4
Fuel Emissions	560.2	556.3	3.9
Train Transport to Port	11.9	17.7	-5.8
Shipping Shanghai to Portland	689.8	0	689.8
Loading & Unloading	7	7	0
Additional CO <sub>2</sub> per ton cement:			759.7

**If Durkee plant's capacity is replaced by imported cement, then global CO<sub>2</sub> emissions will increase by 417,815 tons/yr**



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