



April 30, 2021

Senator Todd Kaminsky  
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Assembly Member Robert C. Carroll  
CarrollR@nyassembly.gov

**BILL: A2591 (R. CARROLL) / S542 (T. KAMINSKY)**

**SUBJECT: THE LOW EMBODIED CARBON CONCRETE LEADERSHIP ACT (LECCLA)**

Dear Senator Kaminsky and Assembly Member Carroll,

While we support the goals of LECCLA to reduce carbon in concrete, it is our opinion, as The Concrete Industry Board of New York City ("CIB"), that the bill as written is overly complicated, adds unnecessary cost to construction projects, and will not achieve the intended outcome. The CIB believes that simplifying this important piece of legislation will produce a better outcome for all.

The CIB, the American Concrete Institute ("ACI") Chapter in NEW York City, was established in 1950 to promote the usage of concrete, improve quality, and educate the industry. The CIB is well respected in the industry and became the New York Chapter of the American Concrete Institute (ACI). Our members include ready mix concrete companies, concrete suppliers, developers, designers, contractors, sub-contractors, testing and special inspection agencies, New York City public agencies and departments, The Port Authority of NY & NJ, and many others involved in the manufacturing, design, and use of concrete as well as contributors to local and national codes.

The purpose of the proposed bill is to establish a low embodied carbon procurement standard for concrete in public construction projects, incentivizing emission reductions, resulting in new economic activity and job creation. While CIB is supportive of this concept, we believe the standards and plan can be simplified in a way that will have greater impact for the concrete industry.

1. Principal Incentive

The principal incentive proposed by the bill is a small reduction in perceived bid cost of up to 5% of the concrete material costs. We feel that this incentive will have little impact on overall contract costs and being a blind comparison, will not result in the competitive improvements in mix design envisioned by the authors.

For example, a new runway project at JFK airport had a total contract cost of \$152,000,000. Of this total contract cost the concrete attributed for 12.5%. This results in concrete cost accounting for \$19,128,490 of the \$152,000,000 total cost. Utilizing the maximum 5%, this would result in a \$956,425

perceived reduction in contract valuation, which is only 0.6% of the total contract value. It has been the experience of the CIB members who are involved in government project contracts are never within this small percentage of each other. This leads us to conclude that this will likely have little effect on bids. Further, a bidder who is awarded the project without any effort towards carbon footprint reduction outcome has no further incentive to do so. The CIB feels that a more effective incentive system would be to set targets and financial rewards for achieving those targets. This intrinsic change to the proposed legislation would have a far greater chance of effecting all government contracts involving concrete as opposed to optimistically 1 in 3. Further, it does not reward inefficient mix designs that just happen to be slightly more efficient than the competition.

For Example: A government agency advertises that a financial award of 5% of the concrete value will be awarded at the end of the project for all concrete delivered that hits a certain target. The first benefit is that bidders may factor the award into their budget if they know the target is achievable potentially reducing concrete costs. Second, it will be an incentive equally open to all bidders without the confusion of costs and targets in the bidding phase. Third, it eliminates upfront cost to bidders, of which only one will see benefits from their efforts. Fourth, it eliminates the possibility of missed targets and only offers the reward for in-place results.

## 2. Excessive Paperwork

The method of comparison proposed by the legislation is the use of Environmental Product Declaration Forms (EPDs). These forms are very valuable in understanding the total impact of a particular material and provides a way of comparing sources in the highest fidelity. Our concern with this proposal is that it requires a significant amount of cost and effort in the bidding phase which adds to the cost for bidders. While we don't feel it will be well received or utilized, if it is, it would be done by those with the financial resources to handle the upfront cost of procuring the software to produce EPDs, hiring a mix designer, and design team to spec appropriate mixes. This puts smaller and underprivileged companies at a disadvantage to larger more established companies. Further, there are many government projects that may only have proximity to one producer. This means that while there may be multiple bids on a project, each bidder is likely using the same source for concrete. There are two significant impacts related to this. First, that plant's materials all come from the same place so the EPD form for comparative purposes becomes moot if the mixes are equal. Second, plants may have a varied approach in what mixes can be provided based upon their established business relationship with certain bidders potentially resulting in an unfair bidding process overall.

A simple alternative to comparing EPD forms would be to simply compare cement content. A significant portion of the carbon footprint of concrete comes from the cement alone. All other materials including production and transportation make up a comparatively small percentage of the carbon footprint. This simple comparison could greatly ease the amount of paperwork for small companies across the state. A representative from a national redi-mix concrete company stated that they spent over \$12,000 dollars to compile their EPD forms and will spend an additional \$2,500 annually to maintain the program. While few will take concern for a company of their size, there are many smaller companies that can't handle the burden of this cost just to compete on smaller projects. A simple comparison of cement content is free and will not add any cost to projects or result in any added cost to bidders. It may not capture the fidelity of the environmental impact of each mix, but will suffice for understanding major reductions in carbon footprint. We appreciate the more complete comparison provided by EPDs, but feel

that a comparison of cement should be allowable for projects with a concrete contract cost less than \$1,000,000.

### 3. The Mandate Alternative:

There is a preconceived notion that the concrete industry in New York cares little about the environment and will not improve without incentives. This notion is categorically false. The professionals within the CIB are aware that greener concrete is better concrete and have been making strides unwittingly for decades. Perhaps the motive has been producing stronger concrete, or concrete that cracks less, or concrete that doesn't get too hot when curing, but the industry has been inherently using green concrete without any outside influence from legislators, or environmentalists for many years. The mix designs in government projects are often mandated by the overseeing agency. For example, the DEP has a mandated mix design on all their project requiring 790LB of cement per cubic yard for 7000PSI mixes. The professionals in the industry are astonished by this requirement. A 7000PSI mix can easily be achieved utilizing 400LB of cement, supplemented with slag or fly-ash. A simple mandate from Albany allowing greener mixes would result in reduction in carbon footprint. On a brighter note, the Port Authority of New York and New Jersey utilizes some of the lowest carbon footprint mixes in the industry. In 2010, concrete with a compressive strength of 14,000 PSI was specified for Tower One at the World Trade Center. It was achieved with less than 400 LBS of cement and the proper combination of recycled materials such as fly ash, slag cement and silica fume. Perhaps a more direct solution is a serious look at mandates for government projects. This ensures equal and fair bidding and will have the most prolific impact across the board. The CIB and its members would welcome a proposal mandating maximum cement use within concrete mixes within well informed reason. An additional way to reduce the carbon footprint of concrete is to require longer service life for concrete exposed to natural elements. Longer service life will reduce maintenance and replacement cost reducing carbon. The LECCLA bill should include provisions concerning service life.

### 4. Concrete Mix Design Criteria:

New York City and New York State public agencies currently require in project specifications concrete mix design criteria that have guidelines to attain and measure recycled material goals. LECCLA criteria should be goal orientated that can be easily measured. Concrete contractors and suppliers should be provided with training, software technology, and the means of computing said EPD analysis and GWP metric factors. This training would require a grace period to execute the program efficiently.

### 5. Current Trends:

Except for a few notable exceptions, 100% Portland Cement concrete mixes are no longer used in New York City. While the design of a concrete mix is complicated, the simple fact is use of recycled products is required to produce the high-performance concrete used in today's projects. The typical concrete mix uses 40% Supplemental Concrete Materials ("SCM") and can reach up to 70% SCM which greatly reduces carbon in concrete. The technology and market forces currently exist to reduce carbon in concrete. Mandating simple measures such as minimum SCM in concrete would add little to no cost to a project.

6. Clarifications:

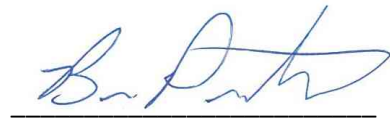
Outside of the procedural concepts of the proposed bill, our members have a series of clarifications that need addressing.

- a. It is impractical for most projects to propose mixes and EPD's to the level proposed in the legislature at the bidding phase.
- b. Most reviewers of the legislation questioned if the 5% reduction was applied only to the concrete portion or the entire bid. We concluded that the intent was to only apply to the concrete portion, but this must be clarified in the final legislation.
- c. There was confusion about the 5%. In several locations it noted "Up to 5%" but we are unclear on when it may be less.
- d. The legislature mandates that "The commissioner" will issue rules, and reports related to the implementation, but we are unclear on who this is and if it is practical. The whole concept is too vague to write into law.
- e. Sufficient time should be provided for the agencies to outline the rules and for bidders to understand those rules and implement EPD records where applicable.
- f. It is unclear if the EPD compares Production Stages only (A1-A3) or if Transportation to the site is included (A4).

In engaging in conversation with our members regarding this draft legislation, we recognize the importance of lowering the carbon footprint and Global Warming Potential (GWP) values; however, we do not believe that this legislation will result in the extreme reduction in carbon the industry requires. We have a sustainable vision for a future with carbon-neutral targets, reduced emissions, and we trust in the initiative to push the climate change incentive even further, but our members agree that further clarification is required to this bill before it is passed. The Concrete Industry Board of New York has done extensive research on this matter, and with this communication, we anticipate your consideration of our concerns. We would like to be involved in the legislative decisions on this matter, as concrete is vital to our industry. We will do our part to build a future that is clean, green, sustainable, and healthy for all, but we simply do not deem this legislation, as currently written, effective at this time.

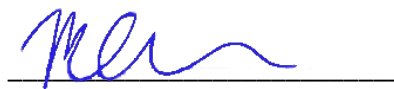
Respectfully Submitted,

The Concrete Industry Board of New York



Benjamin Pimentel

President



Maggie Kwan

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