NYC Construction & Demolition Reuse Summit (URR.13)

Brooklyn Army Terminal Annex

May 12, 2026

Session 3: Town+Gown:NYC and the Urban Resource Recovery Working Group: Understanding C+D Reuse in NYC (2:30-3:45 PM)

2:30-2:40 PM Introduction—CLCPI Update and CDM Survey Results

Terri Matthews, Director, Town+Gown:NYC

2:40-2:50 PM Where Circular Economy Can Happen in NYC: IBZs and M1-M3 NAICS Mapping

Seth Gordon, NYU/Wagner Master's Program

2:50-3:00 PM Deconstructed Materials Further Deconstructed: Chemical Engineering Analysis

Prof. Hejintao Huang, Cooper Union

3:00-3:10 PM Wood x Buildings: One CDM from Volume Estimation to Circular Economy

Regina Valdez, Columbia Sustainability Capstone Program

3:10-3:20 PM Plastic Roads: MSW Plastic in Construction Roadway Reuse

Oliver Hann, Carlos Alberto Hernandez, Sebastián Morales Tirado and Paola González Valentín, NYU/Wagner Capstone Program

3:20-3:30 PM Construction + Demolition Material Exchanges and *Material Loop*

Furui Cao, Xiaoyi Chen and Yiheng Hu, NYU/Tandon/Management of Technology Capstone Program

3:00-3:45 PM Discussion

Precis

I. Introduction. Town+Gown:NYC @ NYC DDC (Town+Gown) is a city-wide applied research program in the built environment linking practitioner City agencies with academics and providing support on resulting research projects Town+Gown. Town+Gown developed and leads its Urban Resource Recovery Working Group (URR WG) that focuses on changes to City agency construction practices and policies that would leverage the City's capital program to support closing construction and demolition "waste" material loops and support a local circular construction and demolition materials (CDM) economy Town+Gown Working Groups: Urban Resource Recovery (URR). Town+Gown has two components, one of which is the Experiential Learning Component, through which Town+Gown connects agency or working group research needs with experiential learning programs thought engagements such as capstones, workshops, clinics and studios Experiential Learning.[1] Town+Gown has been working in the circular CDM economy space since 2017 Symposia and Symposia Archive. This event, *Understanding C+D Reuse in NYC,* is URR.13.

The students and faculty presenting today on work done in academic year 2025-2026 have advanced work completed for the URR WG Town+Gown Working Groups: Urban Resource Recovery (URR) and cover:

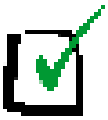
- Where Circular Economy Can Happen in NYC: IBZs and M1-M3 NAICS Mapping
- Deconstructed Materials Further Deconstructed: Chemical Engineering Analysis
- Wood x Buildings: One CDM from Volume Estimation to Circular Economy
- Plastic Roads: MSW Plastic in Construction Roadway Reuse
- Construction + Demolition Material Exchanges and *Material Loop*

Their final work products will be posted under Town+Gown Working Groups: Urban Resource Recovery (URR).

II. CLCPI Local Government Roadmap Updated. Town+Gown:NYC released the Closing Loops City Program Initiative (CLCPI) at its October 13, 2021 event, *Pushing the Urban Resource Recovery and Re-use Envelope: Closing Loops City Program Initiative or You Can't Have Zero Waste without CDW* (URR.8).[2] Many things have happened since then, but the local government roadmap still holds, as this update shows.

[1] The other component is our Faculty Directed Research component Faculty-Directed Research.
[2] See AgendaandPrecis.Final10-12-21.pdf.

State Regulatory Framework. New York State (NYS) regulatory pathways provide a framework within which local governments can identify the CDMs that are feasible within public capital programs to develop CDM recovery and re-use policies and practices to support the local construction and recycling (recovery→interim processing→manufacturing) firms in a local circular CDM economy. CDM, considered as one component of "waste" under law, is governed by a federal-state-local government regulatory scheme.[3] Local government CDM reuse regulatory pathways still begin with NYS Department of Environmental Conservation's (NYS DEC) Part 360 regulations for beneficial use designations (BUDs) and the process for requesting case specific BUDs where none exist.[4] BUDs can turn what is considered to be solid waste, subject to the federal-state laws, into "not solid waste" and they are a major tool in supporting a local circular CDM economy. NYS's requirement for local governments to create a Solid Waste Management Plan (SWMP) is an additional NYS regulatory pathway to which local governments can consider adding CDM, which *both* NYC and NYS have done.[5]



Action 1—Conduct CDM Data Analysis. We initially thought, in the absence of locally-generated CDM type and volume data from local public capital projects,[6] that data from the NYS DEC *Part 360 Series Waste Tracking Document-Construction & Demolition Debris*, which would cover CDM from both public and private projects, could, with work, be disaggregated by location and tell us what is coming out of NYC construction and demolition projects and where they go. Data from what is referred to as the "carter report" represents the beginning of the CDM journey (i.e., what comes out of NYC) and, with data from other reports from transfer stations (Permitted C&D Debris Handling and Recovery Facility Annual Report) and from landfills (Active Construction and Demolition (C&D) Debris Landfill Annual/Quarterly Report), could show the entire journey. These reports are publicly available, but the forms are not digitized and many of them are handwritten, Town+Gown worked with three separate capstone teams to use machine learning functions, and the significant portion of hand-written documents makes it impossible at present to use them for analytical purposes. Thus, at present, it is not technically possible

[3] See Resource Conservation and Recovery Act.pdf.
[4] See AnalysisofPart360RegulationsBrooklynLawSchool.pdf and AnalysisofProposedChangestothePart360Regulations.pdf, which contains, at the end, an analysis of Criteria for Exempt, Registered and Permitted Facilities. See also
[5] See for New York City's Solid Waste Management Plan - DSNY. For New York State's SWMP, see New York State Solid Waste Management Plan - NYSDEC.
[6] And the URR Working Group really tried to find it.

to use these data sources for mapping CDM flows from NYC or within the state,[7] but Town+Gown will continue to explore research opportunities for machine reading these reports.

Action 2—Determine the CLCPI Recoverable Materials. The Recoverable CDMs identified in 2021 have held up, and we keep learning about more materials with reuse potential, which is the reason we changed the name of the original working group from CDW—Construction and Demolition Waste—to URR—or Urban Resource Recovery.

Through the many Town+Gown symposium events focusing on specific materials,[8] we have learned that the circular economy concept can include discarded wind turbine blades for construction reuse; wastewater treatment facility materials, such as grit, for construction reuse in concrete, other wastewater treatment facility biosolid materials, with pyrolysis, for construction reuse in concrete; and, organic matter, with pyrolysis, for construction reuse in concrete.

Recently, however, it became clear that while identifying materials is an important step, what is more critical for local circular CDM economy development is chemical engineering analysis of each CDM to identify what they are made of and, based on that, how they can be reused with available technology.[9]

Action 3—Assess Impact of Local Laws. We initially thought that there may be some local laws and/or regulations that impede on site source separation as they relate to temporary stockpiling of deconstructed materials on city streets awaiting transport. It is not clear at

[7] See CDW Final Capstone Progress Report_2, Capstone Machine Reading Code - Final Presentation (2).pptx, and CDW_Report_MOT 24 Spring.
[8] At Symposia and at Symposia Archive, see various events marked with CDW or URR. This event is URR.13.
[9] See Construction and Demolition Materials Chemical Engineering Analyses (Cooper/Engineering).

this point that an existing interpretation of regulation of project site stockpiling being deemed not a "transfer station" is such an impediment.

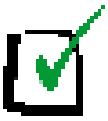
Action 4—Develop Construction Contract Specifications. A local government's standard construction contract can provide a significant lever to support a circular CDM economy, and we suggested adding new, or revising existing, contract specifications to a local government's standard construction contract to increase the supply of recovered and/or processed CDM feedstock to support a circular CDM economy. We had several categories to pursue that included a *CDW Reporting Specification, a Cost Savings Sharing Specification* essentially to support recovery and re-use of recycled CDW from City capital projects, and a *Government-Wide Process to Revise Agencies' Construction Materials Specifications*.

Executive Order 23 of 2022, signed on September 22, 2022 (EO 23),[10] supercharged the idea behind this proposed action and, further, put the proposed specification ideas into a framework that the construction agencies covered by EO 23 (Covered Agencies) would collaborate on with the Mayor's Office of Climate and Environmental Justice (MOCEJ).[11] Since the nature of the construction process begins with planning and design activities and ends with construction activities, with operations and maintenance of the constructed object embedded into its design and construction, EO 23 specifically focused on "front end" aspects of the design and construction process with incorporation of low-carbon concrete specifications, submission of environmental product declarations, using low-emission vehicles and equipment, and submission of life cycle assessments. Thus, the last specification idea falls within this front-end EO 23 bucket.

EO 23 also required action plans from the Covered Agencies as well as joint action plans to achieve EO 23. One joint action plan focused on waste management planning, beginning with the design process and implemented during the construction process, which is the "back end" bucket of EO 23 within an integrated design and construction process. The first two specification ideas required research on Covered Agencies' construction contracts, which revealed that many of the Covered Agencies already had waste management plan (WMP)-related contract specifications,[12] which, in part, led to the recently released CDM

[10] See eo-23.pdf.
[11] See Buildings, Infrastructure & Land - Mayor's Office of Climate & Environmental Justice.
[12] See Comparative Waste Management Specifications Materials, Comparative Diversion Rates, and ComparativeFeatures.pdf.

Guidance document,[13] as the foundation for the EO 23 Working Group to continue to leverage capital projects to support the circular CDM economy. The CDM Guidance document includes elements of NYC Economic Development Corporation's (NYC EDC) Circular Design and Construction Guidelines.



Action 5—Leverage Local Government Market Support Mechanisms. NYS DEC's BUD regulations represent a significant cornerstone from which local governments can create more beneficial use opportunities for the increasing amount of CDM that originates from construction projects to support a local circular CDM economy. The BUD regulations; however, assume and rely on an efficient and functioning "market" to generate sufficient private firm investment to expand and build necessary interim processing and manufacturing facilities for CDM feedstock in or near localities generating significant amounts of CDM to create localized circular CDM economies.

In addition to WMP specifications advanced under EO 23, other possible local economic supports can help increase the efficiency of the local CDW materials recovery, re-use, processing and manufacturing markets, which is the elements of a local circular CDM economy. These supports could possibly include highlighting the availability of virtual data matching platforms operating in or near the NYC metropolitan area to support construction project schedule reliability and possibly mitigate levels of required physical stockpiling of CDMs through the circular economy process.

The NYC Industrial Development Agency (NYC IDA), within NYC EDC, can support capital investment in expanded and new facilities and related technology for existing firms in NYC's Industrial Business Zones or M1-M3 zoned areas (industrial and manufacturing zones) and for new firms looking to locate their businesses in these industrial and manufacturing zones. Like all industrial development agencies across the state, NYC IDA can issue industrial development bonds (IDBs) and other revenue bonds to support private sector investment in expanding existing or creating new interim process facilities and manufacturing facilities and related technology through their tax-exempt interest rates and certain local tax features available under current law.[14] IDBs are an old "work horse", already authorized by State law, that can continue support the private market industrial and

[13] See CDM_Guidance.pdf.

[14] If a local IDA has the ability to create pooled bond issuances, this tool would be an effective support for a CLCPI.

manufacturing firms in the NYC circular CDM economy, with corollary real economic and real workforce development benefits that local IDAs were originally intended to support.

Subsequent to the release of the CLCPI roadmap, in December 2025, the NYC Department of City Planning released the NYC Industrial Plan.[15] This Plan has specific links to the NYC SWMP and vice versa. Strategy 2 focuses on activating industrial sites in support of the green transition including leveraging NYC IDA tax incentives for specified purposes; convening circular economy stakeholders to increase urban resource recovery through reuse, remanufacturing, and innovative recycling across industrial sectors; and advancing NYC EDC's Circular Design and Construction Guidelines across the public and private sectors to reduce embodied carbon and waste in NYC's built environment. Strategy 3 focuses on using City-owned sites to incubate and grow industrial businesses including evaluating the portfolio of City-owned land to improve efficiency and maximize opportunities for industrial siting and utilizing publicly owned industrial campuses to support the piloting of innovative climate technologies and modern industrial practices.[16]

Among Goal 1—Enable industrial businesses to evolve, innovate and transition to green economies—action items are improving city government's ability to help industrial businesses navigate regulatory and resource challenges, activating industrial sites in support of the green transition and expanding workforce developments programs, in addition to the items above.[17] Goal 2—Advance a balanced and coherent land use and real estate strategy—action item include strengthening primary industrial areas and making it easier to build new industrial spaces and catalyze investment in industrial areas.[18]

Action 6—Develop a Governance Structure to Implement the CLCPI. EO 23 has taken care of this action item to create a locality-wide governance structure that can work across agencies to bring them together to collaborate on the elements and also identify other non-governmental stakeholders and bring them into the effort to gain knowledge and develop support.

[15] See NYC Industrial Plan Final Report. For a description of existing government supports relevant to the industrial center, see pp. 25-28 and for results of the industrial business survey, pp. 29-31.
[16] NYC Industrial Plan Final Report, pp. 36-39.
[17] NYC Industrial Plan Final Report, pp. 76-77.
[18] NYC Industrial Plan Final Report, pp. 77.

Action 7—Leverage Public and Private Third-Party Resources for Research and Development.
Town+Gown:NYC continues to leverage capstone programs to increase knowledge and provide the foundation for funded research and development work.[19]

III. Circular Construction and Demolition Material Economy Survey.
Town+Gown developed a survey of opportunities and impediments to a circular CDM economy with members of the URR WG. We opened it on January 26, 2026, with an email to the Town+Gown community, inviting them to submit responses. We have received 21 responses from people with a wide range of experience in this area. The survey remains open at https://forms.office.com/g/dBXDUZeThk.

A friend of Town+Gown ran the survey results through an artificial intelligence tool that produced the summary in Appendix A. The computer-generated survey analysis, while not wrong, is simplistic and obvious, *n'est pas?*. Before we dig into the human-based analysis of the responses below some context is necessary.

Context for Existing Governmental Framework. One responder suggested that government intervention in a private economic sector is not appropriate and will stifle innovation and change and will prevent potential growth by subsidizing the status quo.

Well, the government intervention horse galloped out of the barn in 1976, with the federal Resource Conservation and Recovery Act.pdf. RCRA is comprehensive federal framework for the management of solid and hazardous waste from "cradle to grave" to protect human health and the environment. While RCRA is administered by the U.S. Environmental Protection Agency (EPA), states may seek authorization to implement their own programs, provided that the state standards are at least as stringent as the promulgated minimum national standards. This delegation allows for flexibility according to local needs, while maintaining a consistent program across the nation. New York operates one such EPA

[19] See Town+Gown Working Groups: Urban Resource Recovery (URR).

authorized program, which means the primary enforcement of RCRA in New York rests with the New York State Department of Environmental Conservation (NYS DEC).

That said, State and City government interventions, suggested by responders to the survey questions, to support a circular CDM economy do need to account for a version of Newton's Third Law of Motion. Government interventions by law and regulation impose costs on the regulated entities within a private enterprise system that will impact their operations and profits, which can limit their ability to invest and innovate. Government intervention intended to "incentivize" these entities with direct grants from the general fund (not an unlimited resource) or subsidies (foregone revenues, also not unlimited) to support activities sought by public policy by reducing costs, some of which originated from law or regulation, run the risk of subsidizing the private sector firms for costs they should, in theory, bear or subsidizing them "too much" because private sector firms are already headed in that direction.[20] Thus, what follows in below will require a careful balancing to identify elements of the system, which in this case is a circular economy for a particular economic sector, for actions that government is best placed to address to solve for rationally-based private actors in the aggregate producing irrational outcomes.[21]

In addition, there is overlap between State and City powers and interests, with the State having a pre-emptory regulatory role in the construction and demolition material space and wider policy implementation span to include NYC as it does all local governments in its efforts. Thus, some of these questions focus on where the City is mandated to act by the State and where it is *permitted* to act as a local government in this space. The **CLCPI Local Government Roadmap Updated** discussed above sheds light on what local governments can do in this *permitted* space.

NYS DEC BUD Framework. As discussed above, NYS DEC's Part 360 regulations for beneficial use designations (BUDs), initially enacted in 2017, can turn what is considered to be solid waste, subject to the federal-state laws, into "not solid waste", and they are a major governmental intervention that supports a local circular CDM economy.[22] The BUDs can

[20] Richard A. Musgrave and Peggy B. Musgrave. Public Finance in Theory and Practice, 5/e (New York: McGraw-Hill Book Company, 1989), like, all of it.

[21] See at AgendaandPrecis.Final10-12-21.pdf, Material Flow Analysis + Transitions Analysis, pp. 23-end. Also, Robert Hockett, "Recursive Collection Action Problems: The Structure of Procyclicality in Financial and Monetary Markets, Macroeconomics and Formally Similar Contexts," Journal of Financial Perspectives, Vol. 3, No. 2, 2015, p. 24.

[22] Since NYS DEC occupies the entire field related to solid waste and "not solid waste", there can be no local legislation that restricts the use of C&D for the circular economy, save building materials performance requirements in local building codes for safety purposes. As noted above in the CLCPI Local Government Roadmap Updated, all NYC construction agencies have waste management plan specifications, in various

been viewed of an example of government "getting out of the way" of the private sector involved in construction to support a circular economy and letting the private sector innovate in this area.

NYS SWMP. NYS DEC released its Solid Waste Management Plan (SWMP) in 2023.[23] The NYS SWMP introduced the concept of the circular economy and initiated a state-wide focus on construction + demolition debris, which represents 46% of NYS's total waste stream, as compared to municipal solid waste's 45% share.[24] The NYS SWMP identified several areas where state legislation would be needed (see Appendix B). Of all the listed legislative areas, NYS SWMP highlights three, one of which is the Disposal Disincentive Surcharge (see Goal 2.4, Action Item 2.4.1 in Appendix B), as transformative legislative actions.[25] The Disposal Disincentive Surcharge, if enacted by the State Legislature, would force a transformation of design and construction industry practices across the state and support a circular CDM economy.

NYC SWMP. NYS requires local governments[26] to create a SWMP, which NYC has done.[27] Like the NYS SWMP, the NYC SWMP includes, for the first time, a focus on CDMs, with a circumscribed ability to act in this area as a local government, in comparison to powers with respect to MWS, which the State expects local governments to manage. With respect to CDM, DSNY's plans are discussed below and provide the context for ideas suggested by the respondents.[28]

stages, that aim at diversion from landfills, which also operate as generating supply of CDM for a circular economy.

[23] See New York State Solid Waste Management Plan - NYSDEC.

[24] NYS SWMP, pp. 6, 9-16.

[25] NYS SWMP, pp. 61-63.

[26] Or local planning units.

[27] See for New York City's Solid Waste Management Plan - DSNY.

[28] At Solid Waste Management Plan - DSNY., p. 13; charts pp. 45-46

Table ES-6. Construction and Demolition (C&D) Waste Program

Initiatives	Agency Strategies
Implement Clean Construction Executive Order (EO23)	• Develop construction and demolition guidance for all covered City agencies.
Expand New York City Department of Transportation (NYCDOT) recycling in asphalt	• Continue to provide asphalt millings for use in City projects, private industry, and community developments. • Work on increasing the use of asphalt with higher recycled asphalt pavement (RAP) content and pilot projects with 50% RAP. • Identify opportunities to use recycled materials in asphalt mixtures as they become available in the industry.
Include C&D waste in the circular economy	• Identify opportunities to use recycled concrete aggregate (RCA) and provide unused RCA for use in City projects. • Test the use of low carbon materials and explore recycled content of concrete mixes. • Expand the NYC Clean Soil Bank program's Forbell Street Stockpile yard operation from two to three days per week. • Collaborate on the *NYC Industrial Plan* and on circular economy opportunities related to building and infrastructure material recovery. • Advance research and identify infrastructure for reuse and remanufacturing. • Convene C&D waste processors to identify and address barriers to reuse, recycling, and beneficial use, and to solicit suggestions on improving C&D data. • Work with C&D waste processors and City agencies to develop C&D material reuse incentives.

The waste categorization for CDM, based on currently available information, is below. There are significant data gaps in the CDM area, due in part by CDM going via private firms and carters to families outside NCY, and DSNY will work on closing data gaps.[29] Local Law 14 of 2025, however, requires DSNY to conduct a waste characterization study for commercial and construction and demolition waste (C&D) by January 31, 2032.[30]

[29] Solid Waste Management Plan - DSNY, pp. 72, 75, 127-128.
[30] See at The New York City Council - File #: Int 0697-2024 and Local Law 14.pdf.

Figure 2-1. Waste Categorization by Material Type and Subtype

MSW	C&D	Organics	Recycling	Special Waste
Putrescible (Residential, Institutional, and Commercial refuse)	Asphalt	Food Scraps	MGP	Batteries
Street sweepings	Bricks	Christmas Trees	(Metal, glass, plastic)	Electronics
	Bulk Metal	Brush	Cartons	Hazardous Household Waste
	Concrete	Grass Clippings	Aluminum	Mercury Devices
	Recycled Asphalt Pavement	Leaf/Yard Waste	Bulk Metal	Motor oil
	Recycled Concrete Aggregate	Manure	Metal	Regulated Medical Waste
	Fill	Wood/branches	Non-Ferrous Metal	Tires and rims
	Soil/sand/rock	Woodchips	Paper	Vehicle
		Fats, Oils, and Grease	Cardboard	
		WRRF Materials	Textile	
		Biosolids		
		Scum		

MSW - Municipal Solid Waste; C&D - Construction and Demolition Waste; WRRF - Wastewater Resource Recovery Facility

The NYC SWMP lists various active incentive programs and educational efforts related to the MSW component of NYC's solid waste stream.[31] DSNY plans to leverage its DonateNYC platform and other city-based programs and efforts to increase the quantity of C&D material recovered and reuse, linking specifically to ongoing efforts such as EO 23/2022 "Clean Construction" and Town+Gown's Urban Resource Recovery Working Group.[32] See below:

[31] Solid Waste Management Plan - DSNY, pp. 95-97.
[32] Solid Waste Management Plan - DSNY, p. 124.

Support Construction and Demolition Material Reuse

In 2023, building products accounted for 0.7% (or 9,293 pounds) of material donated through donateNYC—an increase from 2021, when 7,385 pounds were diverted. Building materials that could potentially be donated include decorative building fixtures, lumber, glass cullet, stones, tiles, and bricks. Other construction and demolition (C&D) materials may also be suitable for reuse.

DSNY aims to increase the quantity of C&D material recovered through donateNYC and through other programs and efforts throughout the City. In 2023, the Executive Order 23 (EO23) Task Force was formed to implement the City's Clean Construction EO23, which was created to reduce emissions (particularly embodied carbon) associated with C&D operations and waste.

Town+Gown is a city-wide university-community partnership program under the New York City Department of Design and Construction (DDC). The program conducts research projects and has multiple working groups that study construction and resource recovery. DSNY's Reuse and Donations Unit will coordinate with the EO23 Task Force, Town+Gown, and other City partners to study and develop C&D material reuse pathways and programs.

Agency Strategies

- DSNY will support nonprofit and community organizations engaged in reuse and repair by offering technical assistance, strategic relationship development, and access to funding opportunities.
- DSNY will collaborate with the EO23 Task Force and Town+Gown's Urban Resource Recovery Working Group to identify opportunities for increased C&D salvaged material storage and refurbishment.
- DSNY will build C&D material expertise within DSNY's Reuse and Donations Unit and promote existing donateNYC tools to designers, developers, and contractors to support connecting C&D supply and demand.

Stakeholders:

DSNY
New York City Department of Transportation (NYCDOT)
DDC
New York City Department of Environmental Protection (DEP)
New York City Mayor's Office of Climate & Environmental Justice (MOCEJ)
DEC
DCAS
New York City Public Schools (NYCPS)
Nonprofit organizations
Commercial businesses

DSNY will also convene New York City's circular economy stakeholders, including C&D processors and private sector actors, to expand C&D material reuse infrastructure and supply chains, linking this effort with the NYC Industrial Plan which identifies pathways to support a local sustainable industrial economy.[33] DSNY's strategies include:

Agency Strategies

- DSNY will convene a network of organizations across sectors in the circular economy.
- DSNY will lead the development of a virtual hub to increase coordination, compile research, collect data, and share best practices.
- Agencies will work to develop performance-based specifications to facilitate the use of recycled material and material with recycled content, including reclaimed soil.
- DSNY will partner with local organizations to promote commercial C&D material reuse.

Stakeholders:

DSNY
Businesses
Nonprofits

[33] Solid Waste Management Plan - DSNY, pp. 128-129.

Finally, DSNY has scheduled its C+D Waste Program, discussed above, over the SWMP's ten-year period.[34]

NYC Executive Order 23/2022 and MOCEJ CDM Guidance Document. As noted above, the CLCPI focused on a local government's standard construction contract as a significant lever to support a circular CDM economy, leveraging waste management plan (WMP) contract specifications to increase the supply of recovered and/or processed CDM feedstock to support a circular CDM economy.

From late 2020 throughout late 2022, MOCEJ had been developing the City's clean construction strategies, first, as part of C40 Clean Construction Declaration, which it forewent in favor of a NYC-based effort, which emerged as Executive Order 23 of 2022, signed on September 22, 2022 (EO 23).[35] EO 23 put the CLCPI WMP specification idea[36] into a framework within which the construction agencies covered by EO 23 (Covered Agencies) would collaborate on with MOCEJ,[37] as part of the "back end" bucket of EO 23 within an integrated design and construction process. The CDM Guidance document imports many of the ideas found in EDC's Circular Design and Construction Guidelines[38] and is in the implementation phase with the Covered Agencies.

Survey Says . . .

1. What kinds of policies, programs or legislation do you think New York State government can pursue to support the circular construction and demolition material (CDM) economy from the near-to-mid-term and in the long-term?

Ideas for State legislation and/or state-wide policies:

- State legislators have introduced legislation, such as S7998 and A8456,[39] which would apply embodied carbon emission reductions to new construction, additions and renovations involving 25,000 SF or more within the State by maintaining an existing portion (at least 45%) of a building structure, demonstrating a reduction in A1 to A3 life-cycle state emissions (15%), or demonstrating embodied carbon emissions reduction using a whole building life-cycle assessment (15% increasing to 30% in 2033).

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[34] Solid Waste Management Plan - DSNY, pp. 194-195.
[35] See eo-23.pdf.
[36] See Comparative Waste Management Specifications Materials, Comparative Diversion Rates, and ComparativeFeatures.pdf.
[37] See Buildings, Infrastructure & Land - Mayor's Office of Climate & Environmental Justice.
[38] See Circular Design & Construction Guidelines | NYCEDC
[39] See NY State Senate Bill 2025-S7998 and NY State Assembly Bill 2025-A8456.

- Other near-term ideas include:

    - Mandatory recycling targets requiring contractors to recycle or reuse at least 50% of C&D debris (by weight) on large projects
    - Requiring state-funded projects to prioritize low-carbon materials, include "deconstruction plans" in bid documents, include minimum recycled content for certain materials, like gypsum drywall, concrete
    - Expanding permitted single stream processing facilities to support regional distribution of C&D debris processing facilities to ensure contractors have local places to drop off separated materials
    - Adapt the NYC EDC Circular Design and Construction Guidelines for state-wide adoption[40]
    - Leveraging NYSERDA and Empire State Development workforce development programs for circular CDM economy job training initiatives, which can include certification of trained workers[41]
    - Increasing state-wide educational efforts to include building maintenance and preservation guides; design for adaptability guidance; existing financial support for adaptive reuse projects; circular construction and/or disassembly and adaptability guidelines; and a clearinghouse identifying available land for stockpiling and storage
    - Review construction agency/building owner staffing needs and construction contract specifications to support the supply side a circular CDM economy

- Longer-term ideas include: [42]

    - Mandate extended producer responsibility for building materials to hold building material manufacturers responsible for the end-of-life recovery of their products

    - Reconsider the focus of products (and EPDs/LCAs) to rate/score products based on how they set the future up for success (e.g., how easy it is to disassemble/re-purpose and ultimately biodegrade non-toxically) and NOT by 'predicting' the life span of the product due to the reality that many products

[40] See Circular Design & Construction Guidelines | NYCEDC, NYC has adopted its CDM_Guidance.pdf for its covered construction agencies based, in part, on those Guidelines.
[41] See Clean Energy Workforce Development and Training | NYSERDA and Office of Strategic Workforce Development | Empire State Development.
[42] The Material Reuse & Circularity subcommittee of the New York State Embodied Carbon Working Group is currently working on a comprehensive draft framework outlining long-term recommendations to make circular construction and building material reuse standard practice.

with durability ratings on residential or office renovation projects in practice get ripped out earlier that predicted life when a new owner/tenant moves in.[43]

- Develop a regional network of physical "warehouses" (perhaps with some subsidization) with associated digital marketplaces to bridge the gap between supply (recovered/salvaged source-separated materials) and demand (designers and contractors looking for these available materials consistent with contract requirements)—the State of Tennessee has supported a state-wide initiative, called the Tennessee Materials Marketplace, along these lines[44]
- Create embodied carbon taxes or credits that integrate construction waste into the State's Cap-and-Invest program
- Look at state authority with respect to local zoning powers for ways to support direct building reuse and "Design for Deconstruction" provisions and with respect to local building codes[45] to require that new buildings be designed to be easily taken apart, including using mechanical fasteners instead of adhesives and create building digital twins with associated material passports to log every component's history, and adaptive reuse permits.

2. What kinds of policies, programs or legislation do you think New York City government can pursue to support the circular construction and demolition material (CDM) economy from the near-to-mid-term and in the long-term?

- Leverage the Mayor's Office of Talent and Workforce Development and NYC Small Business Services workforce development programs for circular CDM economy job training initiatives[46]

- Proof of concept pilot projects or programs (with funding) for waste reduction/revalorization projects, which can include waste processing as well as the implementation of re-circulated or re-valorized waste like recycled aggregates, biochar, etc.; closely aligns with idea for expanding funding for R&D; leverage NYSERDA's grant programs that include funding for embodied carbon reduction and material reuse programs.

- [43] Another consideration is the tax code - are product users encouraged to buy new because this becomes a tax write off, versus renting/recycling (furnishings, for example). A related idea would be to embed guidelines/rules/penalties/incentives into 'green lease frameworks' between owners and tenants.

[44] For a state-wide state government materials exchange, see Tennessee Materials Marketplace - The Environmental Council of the States (ECOS).

[45] S7998 and A8456 amend the Executive Law that covers building codes.

[46] See Recent Initiatives and Workforce1 Career Centers - SBS.

- Ideas for Future EO 23/2022 and CDM Guideline Implementation

    - Require demolition contractors to itemize their demolition numbers, so deconstruction contractors can start measuring their costs against demolition and hauling costs of specific materials; currently the norm is for demolition contractors to give one large lump sum, which makes comparisons of separate material deconstruction infeasible
    - Appropriate financial support for
        - deconstruction teams to de-risk the labor effort reimbursed from material re-sale revenues
        - incubator for organizations working to advance building material reuse
    - Applying the Clean Soil Bank mechanism for other CDM from public capital projects to be reused on other capital projects
    - Support state legislation, such as proposed S5202,[47] that requires contractors in cities with over 1 million people to recycle or reuse at least 50% of C&D waste (by weight) for new residential buildings with 4+ units and large non-residential projects.
    - Create a clearinghouse of various firms for CDM removal, selling/unloading materials to reuse and deconstruction
    - Reduce risk from direct reuse of CDM due to lack of performance warrantees for recovered materials—new owner assumes all risk with faulty performance compared to buying new
    - Leverage EO23 as a jumping-off point to
        - start rewriting a whole host of New York City standard specifications of construction used by Covered Agencies
        - mandate recovering, reusing and using remanufactured materials with higher %'s of processed CDM feedstock increasing the demand side of the circular CDM economy
        - mandate use of materials and products that have documented EPD's below certain maximum thresholds for their class of material
        - mandate source separation on job site of valued CDM prior to going to a certified CDM recycling facility
        - mandate a pre-demolition salvage assessment/audit, materials management plan and deconstruction phase as part of the project delivery schedule, with documentation in a clearinghouse to demonstrate reuse and diversion—could be done by revising Building Code Chapter 33 to include a Material Recovery/Salvage Assessment, conducted by a

[47] See NY State Senate Bill 2023-S5202.

certified professional to be uploaded alongside ACP-5, and site safety plan and establish/protect dedicated time for salvage before demo permit issued
        - mandate e use of Third-Party Verified C&D Recycling Facilities, verified by Recycling Certification Institute, to increase credible, trusted data to inform circular system improvements
        - work with NYC DOB on adaptive reuse permitting
    - Import "Design for Deconstruction" concepts into the NYC Building Codes to require that new buildings are designed to be easily taken apart, including using mechanical fasteners instead of adhesives and creating building digital twins with associated material passports to log every component's history
    - Mandate Envision (Institute for Sustainable Infrastructure) for infrastructure projects[48]
    - Establish a grant and/or an incubator for organizations that are working to advance building material reuse.
    - Implement LL 14/2025 C&D Waste Characterization Study before 2032.
    - Expand Local Law 97 to include Embodied Carbon; this would penalize the use of "carbon-heavy" new materials and could provide credits for using reclaimed or recycled C&D materials
    - Require new large-scale developments to maintain Material Passports, which is a digital inventory of every component (steel beams, glass, flooring) used in the building to allow future developers to know exactly what is available for harvest when the building is eventually renovated or deconstructed.
    - Promote and utilize existing material exchange platforms and marketplaces to share photos, descriptions, quantity, location, and timeline.
    - Create or support creation of a city-wide public-private material marketplace, as a digital exchange that connects demolition contractors with architects and developers and reduces the "friction" of finding high-quality salvaged materials at a scale suitable for all NYC buildings

- Local zoning related ideas
    - Implement Zoning Text Amendments to safeguard and expand Industrial Business Zones (IBZs) specifically for C&D recovery facilities; currently, land for processing bulky construction waste is scarce and expensive; zoning must protect and support these hubs pivotal to city circularity
    - FAR bonuses for buildings that are not torn down but reused - based on % of reuse; with additional FAR if materials are retained on site; accompanied by

[48] LEED is already mandated for NYC public building projects, see Green Building Requirements - OEC.

DOB requirements at filing to catalog material for every renovation and build submission.

3. What do you think the private sector can do to support circular CDM economy from the near-to-mid-term and in the long-term?

Responses to private sector efforts also revealed different perceptions of the appropriate role of government with respect to the private sector. At one end of the spectrum is the belief that the private sector has the ability to move quickly towards cost savings innovations if government were to stay out of the way. At the other end, however, is a range of thoughts on private sector support from some form of government intervention. Below are some governmental intervention ideas in this section focusing on what the private sector can do to support the circular CDM economy:

- First, is the idea that city and state government "signals" need to be sufficiently strong for the private sector to deem them reliable for private sector action.
- Along these lines is the assertion that private sector actors will not undertake actions voluntarily that negatively impact revenues and profits absent new rules, building codes and/or laws that force them to change current conventional construction practices—until then, government must offer financial incentives and subsidies.
- Similarly, the private sector would need either an incentive or disincentive to take advantage of a recycling program.
- The private sector seems to need a "if they make it, the city will come" assurance, and there was a suggestion to mandate Envision in addition to LEED, which is already mandated, to support the demand for certain products to meet those requirements.
- Additionally, the private sector wants the government to include it, as a stakeholder, early into process of adding new mandates to give firms time to invest, providing competition and lower costs.
- Non-venture capital sized entities seem specifically in need of funding mechanisms in order to build and test.

- Private owners and/or designers and contractors on private and public projects can:

    - internalize embodied carbon accounting, by integrating life cycle assessment into their core financial reporting, and place a corporate internal price on carbon, so that the business case for reuse becomes a standard ROI calculation rather than a sustainability add-on
    - invest in deconstruction/soft-strip training for methodical disassembly
    - adopt material passports to track material inventory in new builds

- support programs that divert usable materials, such as timber, from landfills
- sponsor training programs that allow local residents to become part of the circular economy, as employees of these firms
- invest in original R&D help innovate new sustainable construction technologies and methods; the potential corporate upside is possible patenting/trademarking of new innovative processes with revenue potential for firms; help to fund research or serve as industry advisors on circular economy research
- advocate for circular economy measures and research at professional organizations, such as the SEI Circular Economy Working Group or the ASCE Infrastructure 2050, perhaps as a signatory firm. to participate in an "unbiased" community for best practices related to tracking and reducing embodied carbon and waste; present at various conferences about Circular Economy "lessons learned"

- Private equity firms and industrial developers can develop regional circular hubs by investing in physical infrastructure large-scale warehouses and processing centers where salvaged materials can be cleaned, refurbished, or processed, and resold at scale; and, create a digital exchange platform for use within NY metro area

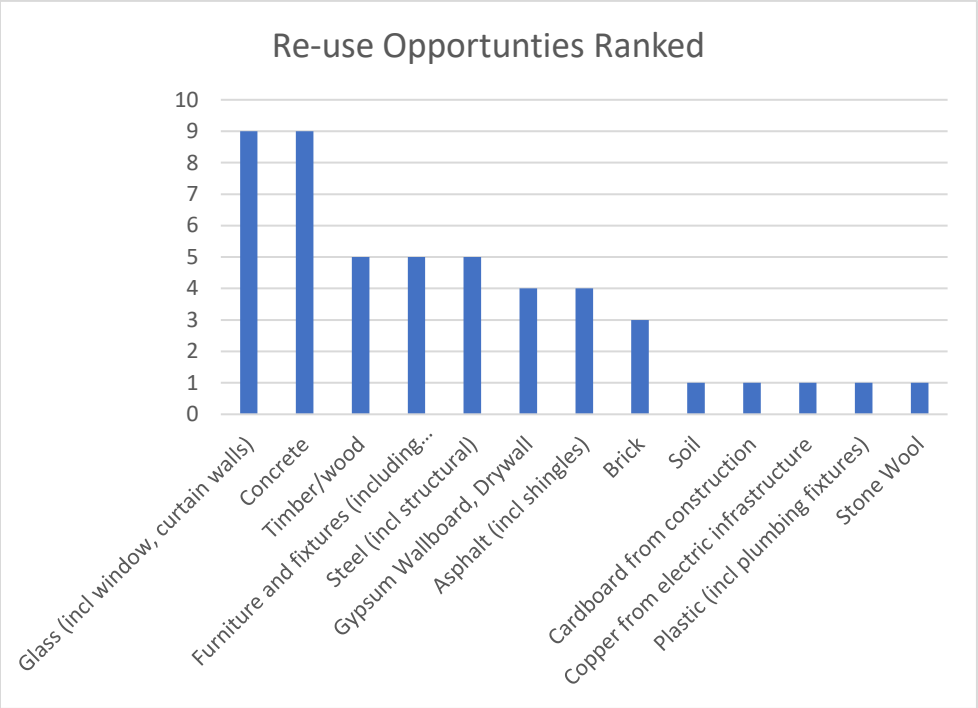
- Designers (architects and engineers) specifically can:

    - design for future adaptability/disassembly and reuse, using mechanical joints and modular components that allow a building to be un-built decades from now without destroying material value
    - prioritize reclaimed sourcing by specifying reclaimed materials in their basis of design to signal to the market that there is a consistent buyer for salvaged goods
    - standardize material recovery/salvage assessments on every project
    - specify more reclaimed materials to increase demand
    - include takeback and deconstruction provisions in specifications
    - create reuse design guidelines
    - conduct LCAs on projects to understand their carbon impact and then use strategies to reduce them.
    - incentivize the greater use of life cycle assessments, particularly cradle-to-grave LCAs, and EPDs in procurement requirements and decision making
    - transition to "product-as-a-service" model, where sensible, in which owners would lease, instead of purchase, from manufacturers, lighting, HVAC, solar panels, and other equipment, and flooring; the manufacturer would retain ownership and be responsible for recovering and refurbishing the asset at the end of its life

- support development of specialist contractors familiar with deconstruction
- create a directory of salvage businesses
- keep in contact with contractor teams to achieve goals
- keep in contact with public agencies to recommend and communicate shared measurable goals for circular economy
- be open, in interior designs, to 'mixed' recycled furniture (maybe streamlined into the same color palette) and the idea that interior furnishings do not all need to be in matching sets, which biases design around new purchases/whole collections, to move circularity up on the corporate priority list of priorities to corporates; a corporate internal influencer may be helpful but there could be structured incentives or compliance structures to drive it as an organization-wide priority
- choose quality materials from the beginning of projects for materials to maintain value (even gaining value through antiquing/patinas) over time because many products 'ugly out' before they wear out and most synthetic materials will fall short of this goal, perhaps with the exception of linoleum; acknowledge that toxic building materials need to be retired out of the built environment, not recycled/re-circulated
- share deconstruction case studies and reports to familiarize project stakeholders with deconstruction; as well as share building material reuse resources (including best practices guidance and case studies), such as those produced by NYC EDC, SEI Circular Economy Working Group case studies, CR0WD, Circular Construction Lab (CCL), CLF Boston Reuse Working Group, and RECLAIM NYC. with project stakeholders
- incorporate practices that facilitate building material reuse, including use of modeling software integration specifically developed to prompt reuse in design (e.g., Rhino Circular) and give procurement preference to manufacturers that incorporate end of life considerations into their products
- develop standardized processes ahead of the deconstruction and salvage period for:
    - deconstruction projects to communicate material quality
    - bidding for materials
    - accessing materials
- develop a process for careful documentation of any deconstruction or reuse projects, including tracking of labor hours, costs, etc., directly associated with deconstruction and reuse
- develop assessments identifying nuances of obtaining warranties for, and de-risking installation of, salvaged materials; develop a database of companies offering warranties for salvaged materials

- clearly articulate/illustrate the expected short and long-term economic/financial impact that evolving/migrating the construction industry in the direction of circularity would have on different types of contractors and their material suppliers, operating at different scales of project size
- change the business model to create closer coordination/collaboration among planning, design, construction, and demolition stakeholders to capture opportunities in the circular CDM economy, which are mostly missed because of a lack of early coordination/collaboration
- preserve valuable CDM and keep them in the supply chain to reduce the need to source virgin materials

4. What do you think are the top 5 opportunities (from highest to lowest) for specific construction and demolition materials that we should focus more attention and collective energies on because they are "ripe" for recovery leading to direct and indirect reuse in a circular CDM economy in NYC?



A little more nuanced than what AI produced, no? The top 5 picks of all respondents identified many more materials ripe for a circular CDM economy. There is a lot of CDM coming out of construction projects in NYC.

AI said: Participants suggested prioritizing materials with **large volumes and high embodied carbon impacts**, including:

- Concrete and aggregates
- Steel
- Timber
- Glass
- Interior finishes and building systems

Other general thoughts included focusing on:

- Materials that have minimal labor involved in deconstruction/reinstallation
- Dry systems that can be disassembled in layers (screws not glues); opportunities using magnetic systems and using computer vision to identify individual materials; noted that some of these materials (including interior finishes from commercial renovations) are usually renovated within the 10 year lease period, and often retain a high value
- Materials that can be used in landscape construction; reclaimed materials are already used in landscapes at a high rate, and more can be done
- Not on the "top" materials, but rather focus efforts on the materials coming out from projects that are already slated for demolition over the next year/two years,
- Adaptive reuse of structures on-site; adaptive deconstruction and reuse of structures across sites; creating and expanding a marketplace for recycled/reused materials; material/product passports; and learning from various European initiatives

5. What do you think are the top 5 impediments (from highest to lowest) to a circular CDM economy in NYC?

- Perceptions
    - added time in material reuse / salvage
    - added cost to material reuse
    - added complexity
    - insufficient enforcement of current regulations
    - insufficient public policies, programs
    - insufficient NYC enforcement of job site source separation of CDM prior to landfilling
    - insufficient education and training of necessary workforce
    - anonymity of landfill waste

- City and State procurement not strongly pulling through reused and recycled goods
- reuse demand/uptake doesn't match generation, in part via awareness and lack of strong online marketplaces with good user interfaces
- scattered approaches to pilots, to scaling, and to getting partners; needed is a strong plan that moves slowly, but is very clear, to help inspire uptake and build trust that the practices are likely to remain and benefit all parties involved as much as possible

- Lack of . . .

  - tools to "build the habit" by making the requirements for stakeholders feel like incentives rather than further tightening the oversight on labor and work being done on tight budget and timeline
  - support for re-manufacturing and repair firms' needs based on materials becoming available
  - recycling/reuse infrastructure, technology and machinery
  - companies that do material reuse and salvage
  - lack of space available for salvage/reuse companies to start up
  - incentive to recycle, there is no disincentive to not throw things away or not to demolish
  - green lease provisions necessitating the recovery of materials when it comes to ripping out commercial spaces
  - warranties with re-used objects; Testing, verification of functionality (no/void warranty)
  - process to test and certify the integrity and health of materials since hazardous materials found in reclaimed construction materials make buyers cautious about reused materials.
  - material exchange platforms providing consistency with supply/demand
    - central system to buy old or used but functional stuff
  - enforcement by owners of the circular economy goals, such as "catching" contractors/designers trying to "get by" under the radar with traditional practices
  - process to allow the public sector to buy reclaimed materials
  - a good system of tracking data, cleaning data, assuring data quality and validity; data governance
  - guaranteed supply options as result of calculating annual supply of C&D from NYC

- guaranteed demand if mandates for some materials happen to create a competitive market
- strategic public contracting options with certain firms specializing in circular economy activities for efficiency purposes and moving the market faster
- clear owners' communication of a common voice to the circular market
- quantifiable benefit analysis of reusing materials in the circular economy, material by material, product by product
- incentive or disincentive programs to encourage landfill diversion
- city-wide recognition awards to champions of circular CDM economy in NYC
- demand/awareness among designers, building owners, and stakeholders about reuse as an option
- policy incentives to push stakeholders to consider reuse as an option,
- storage space due to high cost of space in NYC
- specifications to use the material in the market now; processes around material reuse need to create specifications of new materials, and designers need to be incentivized to design with them
- visible information on economic incentives
- research
    - data on how contractors and designers do this
    - distilled industry research
    - incentives (to cover the social cost of reducing CDM)
- coordination
- developed market and reverse supply chain of recycled/reused products in the above
- leveraging the category in the US labor law for a deconstruction apprenticeship incentivizing and supporting deconstruction as skilled labor
    - trade school classroom credits toward this apprenticeship; more traditional "demolition" contractors training in this trade
    - deconstruction training for labor force; including addressing asbestos and lead contamination in many older materials
- incentives in place to de-risk the upfront labor of a deconstruction effort (particularly on public work)

- Reality bites . . .

    - the material reuse economy is currently relying on easy diversion of materials that already have a market (e.g., lumber, brick), but creation of new markets to make deconstruction labor worthwhile will require various stakeholders to create new, collaborative processes that help spread out risk

    - expensive, complicated logistics (pickup, delivery, etc.)
    - synthetic materials 'uglying out' of usefulness even when functional and how damaged goods get handled
    - the heterogenous nature of building materials being complex to manage, especially if their values are low (e.g., dry wall)
    - risk of reusing materials that have been heavily fatigued (e.g., steel under high stress repeated vehicle loads)
    - costs
        - logistics, space, time, incentives, enforcement
        - private material supply chain and fabrication/manufacturing processes all have to modernize and retool, which is expensive; the contracting industry and supply chains that support it do not have any financial incentive to change how business currently is done
        - high cost of land for processing reclaimed materials for reuse or recycling here, and for building materials reuse warehouses

- Continuing government-intervention-in-private-sector conundrum

    - the potential of government inefficiency with potential legislation that hampers growth as the number one threat facing the industry
    - asking for change in an industry that is traditionally slow to move/change and is conservative in its practices
    - source of funds for new projects/developments and the jobs that come with them

6. Who do you think needs to be in the stakeholder group for advancing a circular CDM economy in NYC?

- City and mayoral agencies, including DSNY, NYC DDC, MOCEJ, DCAS, NYC DOB, NYC OMB; and city- and state-adjacent agencies such as NYC EDC, NYS Empire State Development and NYSERDA
- Architects and engineers and their representative organizations
    - structural engineers (for buildings and infrastructure) bridge engineers, rail engineers, airport engineers, roadway engineers
    - architects
- Contractors (including general contractors, demolition contractors, and deconstruction contractors)
- Construction/asset owners including

    - real estate developers
    - property managers and facility managers
    - material specification professionals
    - construction managers
- Professional organizations (ASCE, ASTM, ISO, SEI, SE2050, Infrastructure 2050) for instilling circular economy thought process in their members and to provide standards for all new CDM products; professional certification bodies
- Construction equipment and machinery manufacturers
- Material and product manufacturers and suppliers/distributors of raw materials and off-the-shelf products
- Recyclers and firms in reuse end markets
- Urban/environmental planners
- Sustainability professionals
- Alternative energy industry professionals
- Graphic designers for public awareness campaigns
- Start-up firms
    - small business community
    - for piloting, bringing in start-ups and groups as they become established can be key to avoiding the 'noise' of lots and lots of early start-ups as well
    - investors
- Colleges and universities
    - science and economics to quantify and demonstrate how to turn indirect economic benefits into direct benefits
    - economists to assess creation of jobs and extent of positive economic impact, educators to bring circular economy into the thinking of students
    - dendrochronologists (tree ring scientists)
- Vocational high schools
- Providers of material reuse tools, such as Orbit Exchange, Material Index, Rheaply, Madaster
- Software developers that can help designers and contractors easily track project goals supporting a circular CDM economy
- Technology/R&D sector, including scientists, chemists, biologists, industrial designers and engineers, with knowledge to figure out new innovative ways to turn all types of waste into usable products and materials
- Trade union representing labor all the way up to desk work decision makers
- Advocacy groups such as RECLAIM-NYC, CR0WD, AIA COTE, Urban Green Council, Building Energy Exchange, New York State Embodied Carbon Working Group (NYSECWG), Circular Hudson Valley

- The final government intervention conundrum
  - the private sector where innovation takes first prize for cost savings; within government there is zero incentive to cut costs
  - government/law makers, including politicians, to implement agreed upon policy and goals

Summary

1. Create Market Demand for Reused Materials
A circular CDM economy will not scale without **reliable demand for reclaimed materials**. Respondents emphasized that public agencies can play a key role by **specifying reused materials in public projects and procurement**, which would give contractors confidence to salvage materials.

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2. Make Deconstruction the Default, Not Demolition
Many respondents suggested **requiring salvage assessments, materials management plans, and phased deconstruction** on projects. Over time, policies could increase **minimum reuse or diversion targets**, gradually shifting industry practice.

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3. Build the Physical Infrastructure for Reuse
The circular economy needs **logistics and storage systems** to function. Respondents identified the need for **material reuse hubs, storage space, and centralized marketplaces** where salvaged materials can be cataloged, stored, and redistributed.

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4. Align Incentives with Circular Outcomes
Currently, demolition and disposal are often **faster and cheaper than reuse**. Policy tools such as **tax credits, zoning bonuses, landfill penalties, and pilot funding** could help shift the economics toward reuse and adaptive reuse.

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5. Invest in Workforce Development
Scaling deconstruction and reuse will require **new skilled labor and training pathways**, including programs focused on deconstruction trades, repair, salvage, and materials processing. Respondents also highlighted the opportunity to **create jobs and training opportunities for underserved communities**.

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6. Focus on High-Impact Materials First
Participants suggested prioritizing materials with **large volumes and high embodied carbon impacts**, including:

- Concrete and aggregates
- Steel
- Timber

- Glass
- Interior finishes and building systems

Targeting these materials could deliver **early wins and measurable climate benefits**.

NYS SWMP, p. 39

Goal 2.4: Reduce waste disposal through innovative policy approaches.				
	Action Items	Implementation Lead	Time to Implement	Government Partners and Key Stakeholders
2.4.1	Support a disposal disincentive surcharge (fee per ton) on all waste landfilled or combusted in New York State and all waste generated in New York State being sent for landfilling or combustion out of state to provide financial support for reduction, reuse, and recycling projects.	Legislative	3 years Propose – 2025 Begin – 2028	Municipalities, local planning units, waste industry, businesses, consumers
2.4.2	Support proposals for a minimum level of recycled content in certain products and packaging to support end markets.	Legislative	6 years Propose – 2024 Begin – 2030	Municipalities, local planning units, waste industry, businesses, consumers
2.4.3	Support policy approaches that adaptively reuse buildings, increase the capture and use of building deconstruction materials and recovered aggregate for a variety of applications, and encourage building design for deconstruction. This may include government requirements (e.g., procurement standards, bid specifications, etc.) to include recycled or reused deconstruction materials.	Legislative, DEC	5 years Propose – 2025 Begin – 2027	OGS, ESD, DOS, municipalities, local planning units, general contractors, construction industry
2.4.4	Support policy approaches that incentivize public-private partnership for reuse and repair.	Legislative, DEC	5 years Propose – 2025 Begin – 2030	Donation and reuse organizations, ESD, DOL, municipalities, local planning units, construction industry
2.4.5	Support policy approaches that incentivize public-private partnership for recycling facility development.	Legislative, DEC	5 years Propose – 2025 Begin – 2030	Municipalities, local planning units, ESD, recycling facilities, construction industry

NYS SWMP, pp. 44-45

Goal 3.3: Promote the development and passage of EPR legislation for priority products, as well as EPR framework legislation.				
	Action Items	Implementation Lead	Time to Implement	Government Partners and Key Stakeholders
3.3.1	3.3.1: Support EPR requirements and systems specifically targeting products or product categories: with the greatest GHG impacts; that will drive the renewable economy to reach CLCPA emissions reduction goals; products that pose significant end-of-life management challenges due to their size, composition, or toxicity, etc., and should be prohibited from landfill disposal; and products or product categories for which there are limited opportunities available for proper end-of-life management. Potential products beyond the packaging and paper product identified above to target for EPR legislation include, but are not limited to, mattresses, tires, solar panels, wind turbine blades, vaping devices, all batteries, refrigerant-containing appliances, compressed gas cylinders, and HHW.	 Legislative	Ongoing	DEC, product manufacturers, environmental organizations, environmental justice organizations, Indian Nations, retailers, municipalities, local planning units, consumers

Goal 3.3: Promote the development and passage of EPR legislation for priority products, as well as EPR framework legislation.				
	Action Items	Implementation Lead	Time to Implement	Government Partners and Key Stakeholders
3.3.2	3.3.2: Support creation of a consistent framework for new EPR programs for DEC-identified new products or product categories. The "framework" EPR legislative approach would establish a comprehensive process for recommending, developing, proposing, and passing new EPR laws that follow best practices (e.g., producer responsibility and engagement, sustainable program funding, sufficient consumer convenience, government compliance oversight, and comprehensive consumer education and outreach, etc.) Framework EPR legislation would allow DEC to submit a report to the Governor and Legislature with proposals for establishing additional EPR or product stewardship programs, when such a designation would be beneficial based on factors such as, but not limited to: (i) increased recovery would reduce the need for use of virgin materials; (ii) a program would reduce costs of waste management to municipalities and taxpayers; (iii) a program would mitigate climate change impacts; (iv) a program would lead to the development of new markets for recovered materials; or (v) the existing voluntary system for waste management of the product or product category is ineffective, etc. The report to be provided would specify appropriate recommendations specific to the product or product category and would be available for stakeholder review and input.	 Legislative	5 years Propose – 2026 Begin – 2027	DEC, product manufacturers, environmental organizations, environmental justice organizations, Indian Nations, municipalities, local planning units, retailers, consumers

NYS SWMP, p. 57

Goal 6.8: Support improvements to grant programs for municipal waste reduction and recycling activities and municipal landfill closure and landfill gas management.			
Action Items	Implementation Lead	Time to Implement	Government Partners and Key Stakeholders