

Proposed Focus Area 1: Circular Manufacturing (Private Sector)

Lead Facilitator: John Holm

Lead Note Taker: Kristin Hall

Engagement Overview:

The circular manufacturing discussion was very robust and insightful. Overall, participants were engaged and there was not any recognizable push back against the selection of Circular Manufacturing as a focus area. A recurring theme across all discussions, having not had a chance to fully digest the data just shared, participants were not able to explicitly provide the necessary feedback as they would have if they had time in advance. (Moving forward, we need to remedy this).

Below you will see a summary of each of the four questions and the relevant themes.

Question 1: What are you already doing in the realm of sustainability and decarbonization?

Key Findings:

Overall, while not all participants knew specifically what their respective organizations were doing in the realm of sustainability and decarbonization, several company representatives with operations in Cleveland shared some engaging initiatives:

- Lubirzol: Actively engaging on internal recycling on several waste streams including cardboard and packaging, while also innovating on turning wastewater into natural gas, and exploring plastics aggregate for asphalt.
- Cleveland Cliffs: Provide annual reporting via GRI & SASB frameworks and have a goal to reduce Greenhouse Gas emissions by 25% in 2030
- NEORS: Also have a sustainability plan that includes waste reduction goals and exploring vacant land opportunities
- ENEL North America (Not in Cleveland): Demonstrates science-based targets to the Sustainable Development Goals (SDGs) while also being

recognized leader in the space for inclusive circular economy engagement. Lastly, as a renewable energy company, they proactively stand against the use of fossil fuels

Next steps:

It would be helpful to illicit more feedback from participant's on their current sustainability plans and help them define targets that could benefit Cleveland stakeholders.

Question 2: We have listed out a few opportunities, including synergy with local industry and getting insights into resource flows within the sector. From the ones proposed, which ones would be most effective and feasible? Are there any other opportunities that could be feasible in Cleveland?

Key Findings:

Instead of focusing on the best practices currently being employed, the participants were keen to discuss additional opportunities that could be feasible in Cleveland. Below are snapshot of the opportunities that had the most engagement:

- To replicate the model of the [Ohio Materials Marketplace](#) in Cleveland for manufacturing and make it more robust
- To be a potential partner of [The Marshall Plan for Middle America](#) to help identify and fund the necessary infrastructure for circular industry
- Create a clearing house of waste streams from industry and identify infrastructure to store bioproducts/waste products to make them available when needed.
- Two recommendations were made for the city to hire sustainability economic coordinator to be a liaison between the private sector and city for better coordination.
- More robust data collection on waste also was identified as an opportunity to identify economic opportunities to find meaningful and profitable waste solutions.

Next steps:

We need to continue to engage and brainstorm with participants on these opportunities and explore the top 2 or 3 that consistently rise to the top that Cleveland and truly engage.

Question 3: What is holding you back in your efforts? What barriers do you see for the adoption of sustainability and decarbonization practices in heavy industry and manufacturing? What role could the local municipal government play? Are there any other collaborations that might be helpful?

Key Findings:

The participants had a clear understanding of the barriers that are impeding them and their companies from adopting sustainability and decarbonization practices. Below are the barriers that most resonated:

- Companies are providing limited resources for companies to be sustainable. An example that one company offered was the fact that while they had a business recycling coordinator that conducts full cycle analysis and identify opportunities, they don't provide additional resources to maximize his/her efforts.
- Internally companies are also facing a lack of internal policy and coordination on what do with their waste and how to incentivize engagement on it. More best practices (like Enel) are needed as guides.
- Finally, companies need to look across the entire value chain and identify how waste streams can be more efficiently managed and at a large scale at minimal costs.

The role of the local municipal government can be key, with the following insights driving engagement:

- Several participants continued referencing that the city can help by investing in the latest recycling technology to help grow the waste to resource marketplace.
- Other participants stated that the city should put policies in place that incentivize waste mitigation and increase profitability
- Provide training to SMEs that do not have the bandwidth/time to be properly informed on the opportunities and barriers in sustainability and decarbonization practices

Next steps:

The team should specifically examine the feedback on the role of the local municipality and engage stakeholders further to get more specificity.

Question 4: One of the best practices that came out of the first workshop was the integration of sustainability and decarbonization metrics into ESG reporting. What would need to happen for this to land in your organization?

Key Findings:

There was limited engagement on question 4 given the robust nature of the previous three questions. Overall, several participants said that they are only beginning to explore how the company integrates sustainability into ESG and they need a deeper understanding of what it means to them and their company. One participant did mention that they have been asked by their bond rating agencies how they are performing on environmental initiatives and is aware that sustainability has bottom line impacts.

Next Steps:

Further engage with participants to identify where their company sits in the ESG space.

Proposed Focus Area 2: Circular Built Environment (Private Sector)

Lead Facilitator: Tamara Steefland

Lead Note Taker: Cathi Lehn

Engagement Overview:

During the worksessions, stakeholders from the local construction sector, housing authority, material exchange program, and community organizations came together to evaluate the key challenges and opportunities for stimulating more circular industry and construction in Cleveland. Key elements discussed involved the need for physical infrastructure to process resources; increased incentive through financial regulations and educational processes; insight into available materials; and collaboration to develop concrete tools for including circular strategies in construction efforts. Below you can find a summary of the key questions that were discussed during the session.

Question 1: What are you already doing in the realm of sustainability and decarbonization?

Key Findings:

The conversation primarily focussed on highlighting effective organizations and projects that are working on the topic of sustainability in Cleveland.

- Participants specifically pointed out several initiatives around urban farming and organic processing, such as the Rid All Green Partnership, greenhouses, aquaponics and composting projects, and local research on the Biocycler that takes waste material and recycles it.
- Some participants pointed out that the role of the municipality could be improvised in meeting sustainability goals, for example by improving recycling activities and infrastructure in the city.
- Cleveland Building Trade and Construction Employers offers training programs for young people and BIPOC community that helps prepare them for a job.

Next Steps:

As a team we can explore how to further leverage the municipal instruments for stimulating waste reduction and recycling in the construction sector. In addition, we must explore structures of knowledge exchange between frontrunners and laggards in the building industry (on the topic of sustainability).

Question 2: What is holding you back in your efforts? What barriers do you see for the adoption of sustainability and decarbonization practices in the built environment?

Key Findings:

Participants were clear on some of the key barriers that impede sustainable business in the city of Cleveland. The following key barriers were identified:

- **Lacking financial incentive:** limited financial incentive for people and companies to divert waste; it costs more money to separate than to send to landfill. The diversion of food waste to compost is not economically viable.
- **Capacity, motivation and knowledge:** Some companies indicate they have intrinsic motivation to reduce their impact- others will only do so if it is explicitly part of the project question. Other participants indicate that there is a lack of capacity (time and resources) to address sustainability issues, such as setting up sustainable renovation contacts at the housing authority.
- **Limited infrastructure for local processing:** Construction and demolition waste could potentially be treated locally for reuse, but there currently is no place to store it. There also is a lack of technical infrastructure, and social opposition to crushing concrete in urban areas.
- **Insight into materials:** There is little insights in the quantity of construction and demolition waste produced in the sector. The municipality could play a key role in getting these insights. Participants indicate that construction companies need assurance that reused materials can be delivered on time.

Next Steps:

Identify concrete projects and policies for the municipality of Cleveland to engage with that address these systemic challenges over the coming years. This requires prioritization of potential impact.

Question 3: What opportunities for a more sustainable industry and built environment sector can we identify?

Key Findings:

The last question discussed focussed on identifying opportunities for overcoming the before-mentioned barriers. Participants took up an active role in identifying pathways forward. Some of the key points discussed included:

- Participants shared how a sales tax exempt district might be able to improve the use of secondary materials in the built environment, if it is calculated into a price savings.
- By showing carbon savings through a monitoring system, companies have added benefits to mitigate their impact. To strengthen this even further, the reduced carbon emissions could be attached to a local carbon trading system or local currency.
- In response to the identified lack of resources and knowledge, participants shared the potential value of knowledge exchange among industry partners, as spearheaded in conversation by Keystate & Marous, who could explore the opportunities for prefab, circular construction together. The municipality could also play a role here.

- Continue building sustainable markets around local institutions, such as for the purchase of locally produced compost to meet large landscaping needs. Increase the purchasing of local sustainable goods through municipal procurement.

Next steps:

We need to evaluate the potential impact, feasibility and consequences of the proposed actions to accelerate the circular economy in the built environment, and explore what instruments the municipality of Cleveland can and should use to set these actions into motion. Specific streams of action include the evaluation of potential (temporary) building hubs on vacant lands; financial mechanisms for allowing the reuse of materials; investing in city-wide infrastructure (e.g. concrete crusher) to be used by different contractors; and stimulating sustainable prefab construction. In addition, the team could initiate a co-creation trajectory around specific high-impact topics (each of the focus areas) with key stakeholders.

Heavy Industry & Manufacturing- Question 1

What are you already doing in the realm of sustainability and decarbonization (pilots, setting targets, reporting)?

NEORS- Sust. Plan & Goals, Waste Reduction Goal, Bioincinerator Ash beneficial reuse, GRIT (stinky, but useable in compost)- vacant land opportunities (Plan also aligned with SDGs)

EDEL- large energy firm, Science Based Targets, NetZero commitment, circ econ is strategic lever for companies, 86% circularity, aligning with UN SDGs, need for social purpose

Lubrizol- 9-12 recycle streams (packaging, cardboard, innovative streams), wastewater into natural gas (anaerobic biodigester), plastics in asphalt

CCSWD- information and resources for businesses and residents

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NEORS- pilot for recycling river rock

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Cleveland-Cliffs about what we are doing now: (1) annual sustainability reporting, GRI & SASB frameworks; (2) goal to reduce greenhouse gas (GHG) emissions by 25% by 2030 from 2017 levels company-wide; (3)

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Heavy Industry & Manufacturing- Question 2

We have listed out a few opportunities, including finding new synergies with local industry and getting insights into resource flows within the sector.

- From the ones proposed, which ones would be more effective and feasible?
- Are there any other opportunities you see that could be effective in Cleveland?

Marshall Plan for Middle America- see link in chat

Data collection and report- what is the motivation for companies to track and use this data?

Ohio Materials Marketplace- Similar system for items that people want to get rid of....list of what you want to "wishcycle" (i.e. helping identify beneficial reuse of items)
<https://ohio.materialsmarketplace.org>

Materials Exchange- OHEPA, open to any business in OH, free of charge

Inventory/clearing house of waste streams from industry. Storage for byproducts / waste products to make them available when needed

Questions about liability and ownership transfer issues for specific items

The city needs a sustainable economic coordinator/developer to connect the private sector with sustainable supply chain solutions and resources such as the Ohio EPA's exchange.

Change language from "waste" to highlight the intrinsic value of the items we are using

WASTE = RESOURCES

New Life Cycles - Transfer of Values - Potential for Revenue Creation

NEORS has truly benefited from GOV Deals and reusing assets. Grit, which contain biologicals, requires a bit more risk management and awareness of the risks and benefits of this material.

Business recycling coordinator- full cycle analysis & recommendations, opportunities to eliminate waste

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Heavy Industry & Manufacturing- Question 3

What is holding you back in your efforts?

- What barriers do you see for the adoption of sustainability and decarbonization practices in heavy industry and manufacturing (policy, best practices, financial mechanisms, knowledge and technology)?

- What role could the local municipal government play?

- Are there any other collaborations that might be helpful (national, state, private, ...)?

Business recycling coordinator- full cycle analysis & recommendations, opportunities to eliminate waste...but she's only one person!

Communication & networking, identifying goals and connecting to financial outcomes

Creating infrastructure to support reuse in supply chains

Understanding the language and technology- so much across the board

We could also try to make a connection between material resources and the built environment. For instance, our biosolid incinerator ash, could also be used in LSM or flowable fill concrete. By utilizing locally generated recycled

Helping community understand that materials could be recycled if we have the market and infrastructure

The ability to localize supply chains can shrink the "looping" needed for circularity and add resiliency in the context of geopolitical issues we're currently seeing

Larger companies get it, they've been doing some of this for a while

Lack of consistent policy/guidelines for companies to follow...hard to know which standard to adopt (has implications on business operations)...example: electric vehicle battery reuse

Have to look across entire footprint- seeing traction in requiring supply chains to provide more responsible materials

Liabilities that go along with reuse of waste products. Cheaper and easier to landfill. Lack of knowledge of what can be reused or what is available to us as an input

Scale and volume challenges, and reliability of supply chains

Lack of communication to the public sector on what you are doing. Today I am learning a lot about what you are doing and it is all very good but none of that is passed down along to the public sector so we continue to think

Scope 3 emissions and demand from customers is helping to give Lubrizol leverage to ask leadership to support shifts to more circularity

Use media to help highlight challenges and be transparent with what's needed

Create policy environments that support scalability (i.e. supply chains that have regional/national presence).

Education and capacity building for small and medium sized businesses to be able to adapt to changes in regulatory environment

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Heavy Industry & Manufacturing- Question 4

One of the opportunities that came out of the previous workshop is integrating sustainability and decarbonization metrics into ESG reporting, is this something you are interested in?

- What would need to happen for this to land in your organization?

A lot of work needed in understanding and awareness around ESG and how it fits into biz strategy

Companies are either going to adapt or get left behind (or forced to catch up)

Disconnect between corporate commitments and available supply chain (i.e. committing to require % of recycled content)

Need infrastructure to help provide path for reuse

Lubrizol- ESG>Scope 1 &2> Scope 3

Bond rating agencies

Need reporting to be easier, especially for small and medium sized businesses

In case you missed it, I wanted to share that we've been asked by bond rating agencies about our sustainability efforts. Goldman Sachs is reaching out to some of our other utility peers. Some utilities have tried to report on

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Built Environment & Local Business- Question 1

What are you already doing in the realm of sustainability and decarbonization (pilots, materials passports etc.)?

1-Rid All Green Partnership - greenhouses, aquaponics, composting, workshops- 81st and Otter

2-CoC taken lead requiring to meet enterprise communities, waste reduction, parallels LEED Silver

3-Chris Maurer research with MIT: Biocycler takes waste materials and recycles them

4-CLE Builds - Cleveland Building Trade and Construction Employers-training programs that trains young ppl and BIPOC community

5- think about it as a spherical community not circular; allows to accommodate more diversity; allows a more complex manner

6-solve for institutional incompetency, example is recycling in the City of Cleveland

1-commerical building in C2030D

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Built Environment & Local Business- Question 2

We have listed out a few opportunities, including tendering guidelines for new construction, getting insights into resource flows and including secondary materials in the design of buildings.

- Are there any other opportunities you are excited about?

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Built Environment & Local Business- Question 3

What is holding you back in your efforts. What barriers do you see for adoption sustainability and decarbonization practices in the built environment in Cleveland (policy, best practices, financial mechanisms, knowledge and technology)?

- What role could the local municipal government play?
- Are there any collaborations that could be beneficial in accelerating efforts? Existing or new?
- Are there any incentives to apply sustainability and decarbonization practices in the built environment?
- How could vacant lands be leveraged, what would be the barriers?

1-tax credits in NYC to ppl diverting the waste; where is incentive to divert waste

2-costs more money to separate waste

3-MAGNET project on 55th and Hough; id material on front end material to take out; Kurtz Bros. do the separation and get the credit

4- can have access to ferrous materials

5- concrete and masonry materials; sucks to take to landfill, takes up so much space, want to crush it on site, don't have the opportunity no place to put it; residents don't like crushing; crushed concrete can be reused

6- incentive contractors to on site crush it and reuse; offset cost

food scraps for sake of diverting food scraps, not econ viable; talking about institutional acts; create markets for circ products; landscaping needs; capture more food waste; in and out flow; need markets - are golden; don't have the infrastructure.

2- grounds for collaboration; need for storage; logistically makes sense-are there any building hubs already?

3-Jessica is an example of storage??

bucket-packaging straight from factory; use concrete waste as base; limiting waste; structures built to prescription; using a model; do recycle lumber to cardboard etc. for last 7 years; looking to innovate; porcelain brick; countertops- recycle

5-Marous - do it on projects that they have to; panelize projects; find ways to min waste; cultural? - needs to be part of culture from education; needs to be incorporated; do it only when mandated

6-invite anyone to learn from each other

reuse; supply shortages, having trouble getting; better pr for companies that are offering these resources, e.g. Jessica. Needs to be done at city level; don't want to tell clients there is a wait time; connect the dots; may be a

2-group talking about sales tax exempt district, 8% savings incentive

3-visibility of what is available is what Rheeply does right now; virtual marketplace in SF-what is being deconstructed and what items are available; looking at concrete with C&D community

400 units at any one time; capacity issue; single person trying to manage; don't have the capacity to think about any more; don't have the resources on her own; won't have 5 minutes to follow up; internal policy to not refinish tubs; would love for someone else

5-stormwater credit for diverting stormwater but not for composting even though has benefit; help the public with\$\$; will increase diversion

6-on the long term basis it is a challenge; we try to capture all the information and continuing to comply with LEED reqts; new versions of LEED making it more challenging

Built Environment & Local Business- Question 4

One of the key challenges was lack of insights into what happens to construction and demolition waste.
- What could help get insights into these flows?

working with block chain enabled certifications, can get some from investment, voluntary carbon credits, set up own methodology, professional verifiers, satellite imagery, sell those credits on a ledger, aren't established out

2- RBR with CoC through Urban Sust Directors Network; what one ton of food waste translates to; now have some info; implications of products; helps provide value

3-Buy Nothing Group; efficiency of posting what they have; online tracking; OMM already exists

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