

Appendix: Interview Summaries

Presented within this appendix are summaries of the telephone interviews conducted with selected stakeholders. Please note that these are not verbatim transcripts. Potentially identifying information has been removed from the notes.

Paper/forestry, PEF experience (Pa1Y). United States, size = 10,001+ employees

Experience

Has done “all” the assessment types our survey suggested. Found them very valuable because it challenges them to be introspective and question their processing choices. Third party help is necessary. Has done all the actions we suggested, but not necessarily in response to the assessments.

Benefits

Environmental: expected (5/6), actual (4/6) Reducing the impact of our own product production, Reducing the impact of our suppliers’ practices, Helping our customers to select more environmentally beneficial products, Helping our customers and/or consumers to use our products in ways that reduce environmental impacts.

If comparative, LCA can be an advantage with government contracts, leading to sales growth. Or you may find inefficiencies in your system that are adversely affecting the LCA results. The LCA may not reveal a superior product, but help tweak your margins and efficiency.

Barriers to wider adoption of PEF (especially in Pacific Northwest)

Apart from staff time, complexity of supply chain, data collection:

Scope and boundaries decisions are significant and expert arbitration would help interpret LCA results fairly. With different products vying for approval (such as the need to be compostable or recyclable), depending on the boundaries, the answer can vary. Some interpreters seem to disregard raw material extraction impacts. Communication of results must be done in a more consistent way to prevent greenwashing. Don’t you have to speak to all the pieces in order to be fair?

All those who undertake an LCA have an idea of the results they hope to see come out, and often times one can influence the results in his favor by drawing the boundaries a certain way and communicating only some indicators. Need to have a general understanding of what you might find in the LCA...need to have improved environmental performance for each one! Everyone can cherry pick aspects of their products that look favorable. People report results out of context of the full range of indicators. This is a huge challenge with comparable LCAs. Policy makers and legislators need to be very careful and thoughtful when using LCA results to inform rulemaking.

Potential solutions

To reduce greenwashing problem in government, have 3rd party expertise in conducting LCA/drawing boundary/scoping fairly and help to interpret results. Need an arbitrator to interpret and keep it real and balanced.

On the west coast, one of the big debates is plastic versus paper. Each side has winning LCA results. Scoping out, in an honest way, is key.

Paper/forestry, no PEF experience (Pa2N). United States, size = 101 to 250 employees

Experience

Has reviewed others' LCAs, but hasn't undertaken own LCA. The company has taken the actions listed in our survey (with exception of disclosure), in response to some investigations.

LCA projects are big and ambitious, and since it's not possible for a small company with limited resources to "do it all", this company has looked at carbon footprint through the lens of Scope 2, namely pulp fiber chain sourcing/assessment. It is a priority to them to be looking upstream and not yet downstream.

Has discussed with other supply chain providers. Data from suppliers is hard to come by. Many suppliers have confidentiality issues. The fiber industry, however, is getting used to providing data and is building systems for fiber tracking and verification of data. Forestry industry is becoming transparent! Petroleum-based ingredients are tougher. Tracking down the supply chain in total is daunting.

Benefits

Expected economic and environmental benefits are 4/6. Having good data and the ability to defend a green product is a good thing; however, there is only a subset of customers who care about these things. Otherwise, operationally, knowledge helps drive efficiencies and supply chain hotspots.

Barriers to wider adoption of PEF (especially in Pacific Northwest)

Barriers include cost, staff, lack of supplier support, and not sure how to use the information. This company has a lack of available resources, and perceives suppliers as unwilling to provide meaningful/verified data.

It is tough to be able to compare energy consumption of suppliers – is it apples to apples? The assumptions may vary, and this undermines confidence in the data and the drive to conduct PEF. Fiber is the sexy topic customers bring up. Energy is probably more important. Some emerging issues coming out of packaging side, printing side (low-level toxics).

Does some LCA reading, and seems there is high variability in results based on varying assumptions. LCA is region-specific, trade issue-specific, and priorities will be different everywhere. Value systems vary! Even trade-offs of indicators is very contentious.

Potential solutions

Accounting standards would be very useful, as would some sort of regulatory driver to release data. It's difficult to know what a 3rd party can do. From a supply chain perspective, 3rd party could identify what to focus on and have these priorities communicated across the industry. Tell the company what questions to ask. Must make suppliers use the tools, and their behaviors vary widely. There are no standardized questions or issues. No cookie-cutter tool for automation for all will be appropriate. Other tools aren't yielding much useful knowledge.

With regard to industry collaboration, has seen attempts at it, but it's not done well. Some work fairly well; some not utilized enough by consumers to be very helpful. Not clear it's doing much. FSC coming up with chain-of-custody process, but it could be very time-intensive.

Apparel, PEF experience (Ap1Y). United States, size = 251 to 500 employees

Experience

Has measured PEF, done “back of envelope”, reviewed others’ LCA, assessed operations and supply chain. They’ve changed materials, engaged with suppliers, disclosed PEF and had communications but not in response to the assessments. Has commissioned a 3rd party consultant for streamlined LCA of two high-volume products. This was, educationally, very valuable to this company because it identified the hotspots/main impacts, although they didn’t have the resources necessary to take action on all hotspots. They also do some environmental assessment of supply chain (GHG, energy demand) from key factories for reporting purposes. They have not applied the information in any meaningful way. The next step would be analysis.

They are members of the Sustainable Apparel Coalition (SAC) and are very pleased with their membership. Assessment tools are standardized across industry. For any consumer-facing label, it is key to have standardized tools to communicate in a fair way. It’s also an economical way to get access to tools that otherwise they couldn’t get. Being a part of the work to develop the tools is important, and this company is heavily involved in design tool development. Any tool needs to be scalable. Esoteric LCA’s are not scalable or highly leveragable. A tool that is scalable can be applied across products and multiple times is much more meaningful and action-oriented.

The resulting design tool will put them in a position to streamline the assessment of several products at once. One-time membership fee, and that’s it! Key tenant is that it’s quick and easy to use. Up-front time is a factor to consider, but thinks it’s significantly less than commissioning separate LCAs.

Coalition working on not only content but right technology to enable use. Making sure tool will speak automatically with company internal systems...very important! They piloted the rapid design module last year....general conclusion was that it was too time consuming to do assessment. As a result, they improved the automation...pre-populate as much information as possible...key to doing things multiple times. Need to be useable in the moment of design decisions. LCA is an “after-the-fact” tool, whereas Higg/design tools are quick assessments enablers.

Benefits

Benefits: environmental expected/actual: 5/6 and 3/6; economic expected/actual: 3/6 and 1/6. Actual benefits were not measureable due to having no systems in place to do it. Cost to do it was a lot and it wasn’t clear how it paid off. Didn’t send on path to making changes that could save money in long term. Some companies are driven by environmental marketing, some by consumer demand; there are probably many drivers, such as regulatory demands, etc. There’s also a risk management piece...the way it’s heading, there’s potentially a competitive component and you don’t want to be the brand on the shelf without a label or with a lower score.

Barriers to wider adoption of PEF (especially in Pacific Northwest)

Barriers: cost, staff time, expense of measuring/collecting data. This company doesn’t have the internal expertise to conduct a product LCA. Cost of having an external company conduct the LCA is high. However, did commission a company to conduct a mini LCA (cradle to gate only) on two key products and learnt about 'hot spots' to focus internal efforts from that exercise. Is there value in conducting further LCAs on our product - probably not right now.

Potential solutions

Is a member of the SAC which is helping develop tools to measure product impacts across the life cycle. Sounds like such industry collaboration could make sense across other industries; sees no reason why you couldn’t apply the same type of work to other industries. Not sure if other barriers exist. Develop the right content.

Apparel, no PEF experience (Ap2N). United States, size = 2,501 to 5,000 employees

Experience

This company has assessed operations and reviewed others' LCAs. In terms of actions has engaged with suppliers based on assessments, but hasn't considered many other actions. They have been ramping up Higg Index efforts and are aiming for more quantitative assessments. Is involved in the Higg Product Module still under development and enjoys being a member of the Sustainable Apparel Coalition. Is hoping to leverage the Product Module to scale PEF measurement. Some of the successful characteristics of SAC are the internal staff managing the workload; collaborative effort between brands to create the tool. The challenge is that there are lots of points of view and it can be like herding cats. A very wide variety of tools are considered. There may be lessons for other industries in this effort.

Benefits

Expected environmental and economic benefits are 6/6.

Barriers to wider adoption of PEF (especially in Pacific Northwest)

Cost and staff time, although it's becoming more cost-effective. EPDs are becoming more standardized and will level the playing field a bit. The Higg Index should have a footprinting component: vision is to have automation...would communicate with other operating systems at companies. Will draw from a bank of information, speak to Product Management System. Scalable process making the data available elsewhere is perhaps five years away.

Potential solutions

LCA data would be valuable to understand resource use hotspots, to help become efficient and create innovative solutions. Resources to reduce barriers of entry and resources to hire experts to do the work would be helpful. Make the process more "within reach" for a larger percentage of companies.

Also, the more consumers know about PEF, in a digestible way, the more they can utilize it for purchasing decisions, and buy based on these values. Having more concrete info available will help consumers choose based on values. That stimulates the demand, prioritizes ecodesign decision. LCA-based assessment is the starting point to get that type of information. Put info in company hands and communicate it to customers.

Food, PEF experience (Fo1Y), United States, size = 10,001 + employees

Experience

Has done all assessments suggested in our survey, and has done many of the actions proposed in our survey, in response to assessments. These efforts have resulted in optimization of facilities operations. Also helped inform an ecodesign effort of a flexible material packaging from a rigid one. Optimizing the product was a huge selling point and helped captured market share and work with US government.

Benefits

Environmental benefits were even better than expected (6/6 versus 4/6). Benefits include reducing the impact of our product production, reducing the impact of suppliers' practices, helping customers to select more environmentally beneficial products, helping customers and/or consumers to use products in ways that reduce environmental impacts. One of the key benefits was new government contracts due to green purchasing program.

Financial benefits were also better than expected (6/6 versus 4/6). Market share increases resulting from communicating to consumers/customers about product footprint (sales growth), enhanced corporate or brand recognition from shareholders and/or consumers, reduced expenses under own direct operational control (for example, purchased electricity), reduced expenses in supply chain operations. Optimized manufacturing resulted in significant reductions in water use and associated energy, and therefore financial savings.

Barriers to wider adoption of PEF (especially in Pacific Northwest)

Barriers include too many diverse products; rapidly changing supply chain; not sure which framework/standards to use to calculate footprint; don't know how to use the data to calculate footprint. Expressed the following opinion: LCAs need to include cost to get managements' attention and support. If you can't link the economic and environmental benefits, and create a tool that helps drive continuous and step change improvements, you're going to fight an uphill battle. Yes, there are numerous intangible benefits (e.g. good will) but that alone won't justify a robust Sustainability program.

With regard to the hurdle of too many products, this individual developed tools to do quick, streamlined LCA, "LCA light", screen them quickly to identify hotspots and decide where to go deeper. A substantial problem with simplified LCA is the nesting of questions gets really tricky and you have to keep peeling layers of datasets and to get transparency. You need the deep dive analyses to have intelligent conversations with suppliers.

Potential solutions

Has appreciated WRI-led work to develop product and corporate foot printing standards and protocols. Would like to receive much more on the economic end. Environmental and social impacts can't be considered alone-- sustainability requires all three. I guess it's the nature of an NGO (WRI) but it undermines the effectiveness of their tools. Efforts to develop data are good. The more public the better...needs to be affordable. Need common data.

"It takes a village"everyone has to have a hand in it...there are different needs, funding challenges, might be nice to have a "neutral" government role in the mix to keep things transparent and manage the process. Datasets need to be transparent – not black boxes that cannot be deciphered. Need to be geographic-specific!

As long as we're all using a standardized set of methods...protocol for a basic framework...that's good. Data will be industry-specific, but the software tools can vary. FRAMEWORK was key to know where to start, even with simple tools.

LCA needs a financial component: needs to be simple to add cost of the inputs and understand the value that comes out of a process. It's been too academic without the practicality of an economic lens. Just as simple as adding flows for cost (people, labor, maintenance, material)...but they had to integrate this process on their own...no software tools accommodated this automatically. Life cycle costing is not developed enough.

Once the data has been crunched, no one will ignore it! People won't ignore water risks, water use, etc...highlighting these risks is a great way to take action on both.

Food, PEF experience (Fo2Y). United States, with experience in Europe, size = 251 to 500 employees

Experience

Has done many of the assessments and has done the actions proposed in our survey, although not in response to the assessments. The action experience includes a tool that does carbon footprints on many products. Using SAP to automate footprinting...no longer manual work. Making it easier for businesses to collect data; motivated by French labeling laws to streamline data collection.

Benefits

Environmental benefits: expected (5/6), actual (4/6). Stems from reducing the impact of our own product production, highlighting the importance of packaging choices. COST is driver rather than carbon footprint.

Financial benefits: expected (2/6), actual (2/6). There is certainly a benefit from an investor standpoint, but there has been no measurable impact on sales/growth.

Barriers to wider adoption of PEF (especially in Pacific Northwest)

Retail customers have not been very interested in PEF information; rather, they are more interested in “organic” and other perceived metrics of environmental quality, rather than something like “carbon impact”. There’s a lot of uncertainty around EFs for ingredients and this undermines the credibility of PEF. Suppliers need to track data, especially on fruit and other ingredients (supply chain impacts) associated with ingredients, with the goal of reduce uncertainty around EFs.

Other barriers include cost, staff time, data complexity & enterprise data management alignment. They have been doing PEF for so long - both in outsourced LCAs and internal SAP-integrated carbon footprinting - that many of these barriers have been surpassed. The main barriers for are now:

- 1) managing the flow of data on materials in the face of ever-increasing product and system complexity;
- 2) auditing and ensuring data is correct and complete;
- 3) and perhaps most importantly, how to make PEF important to customers and consumers.”

Potential solutions

This individual feels that measurement will help manage (someday). Also, generate hunger for labels/public displays of information – push for corporations to get motivated/feel demand for this work. Need pressure in the company to do these things.

Can’t speak to collaborative industry efforts for carbon footprinting. Even efforts by The Sustainability Consortium haven’t been motivating factors. With regard to the trade group – they report to them, but there’s no pressure to do carbon footprinting on a product level and doesn’t think action from trade groups would be very motivating.

Third parties were very helpful with all the actions. Have had a few LCAs done by paid consultants on packaging and whey handling. The packaging LCAs helped choose direction and be confident in those directions. PEFs are not valued US-wide, so this individual has benefitted from the motivation developed

in Europe (a government-led initiative) around streamlining data collection and getting in the mindset of such efforts.

Food, no PEF experience (Fo3N). United States, size = 501 to 1,000 employees

Experience

Assessments: has reviewed others' LCAs, and has assessed company operations. Actions: many considered, but not done. Has communicated with customers. Doesn't plan to undertake full LCA.

Involvement is in the factory only. The evaluation of entire life cycle impact is perceived to be a daunting challenge, and views ability to be fairly limited. His company, in the past, was involved with Innovation Center for Dairy (ICD) and the creation of an LCA for GHG emissions. ICD has some documents and tools. His understanding is limited. They do get called upon by customers who need data for reporting reasons in order to sell to Walmart (which has some reporting requirements). Very motivating. He sees this increasing, especially in food business.

He's assigned to "sustainability" but his actual role is helping to decide about processes to help conserve energy/be more efficient. Motivation on this is to save money by saving energy! ROI is attractive financially. Was involved in a decision to change light bulbs to LEDs: ROI of two years or less is worth doing. If not, then the change doesn't occur.

Benefits

Expected benefits, both environmental and financial: 2/6 (low)

Barriers to wider adoption of PEF (especially in Pacific Northwest)

Cost, staff time, support from suppliers, how to collect data, data collection, management support, how to use the information

Potential solutions

They have hired consultants for help to assess company operations, and they work with a local utility/agent who helps measure electricity consumption, and this had a financial payoff. Incentives he sees are through utility providers. In Oregon, much of the electricity supply comes from hydro power. Utilities provide the incentives for efficiency. It's costly for them to provide more power to meet higher demand: interested to reduce demand. This individual is very focused on electricity impacts.

With regard to life cycle costs, would be inclined to work with Innovation Center for Dairy to get help with the analysis. (Such an agency has expertise in the nuances of how his business works....others, without such expertise, wouldn't be as helpful).

Food, PEF experience (Fo4Y). United States, size = unknown

Experience

Began to be pushed in 2005 to comply with environmental standards by the distribution group they sell through. They spent a large amount of time and effort to document information with their producers and in operations. They found that most of the requirements were already being done and being documented. They wanted to know what the benefit was of conducting this work. They discussed with the distributor and determined there was no financial benefit for them. They decided that if they wanted to do this work, they should do it for themselves and on their own terms.

They began working on a life cycle assessment of their products, mostly canned vegetables (with IERE). They developed an environmental product declaration (EPD).

Benefits

Financial benefits? Yes, but difficult to measure. It is a core part of their branding and it's impossible for them to go in a different direction. The consumers in their market are very educated and look for products that have this type of approach.

Environmental benefits? Yes, they changed several things operationally based on the assessment. Their first LCA was on canned green beans. They found that a big impact was occurring in transporting cans a long distance to Oregon. They were able to find a more local can manufacturer.

Comparison to expectations: Had a feeling going into the project that their processes were probably not much different than competitors. However, they felt confident that their canned products were better environmentally than competitors who were providing frozen products. The LCA showed this and it felt gratifying to see this shown. Also feel like it satisfied their expectations for developing their corporate image.

Barriers to wider adoption of PEF (especially in Pacific Northwest)

Barriers: cost – worked for a long time to try to get funding to support the work. Were eventually able to get some support from one of their packaging suppliers. Also difficult to find people to do the work. Data collection is slow and a lot of effort.

Potential solutions

There is an industry association of northwest food processors. Organizations like this may be able to contribute to or support such efforts.

Food, PEF experience (Fo5Y). United States, size = 501 to 1,000 employees

Experience

They have done just about all the assessments proposed in our survey. Have done some streamlined LCA work to identify hotspots, which include ingredients and packaging. These actions set a precedent and intention but didn't drive improvement internally. Then, they did an LCA on processing of fresh versus frozen versus canned/processed foods, as they hoped to develop a positive message about eating healthy which was also supported by LCA results. Didn't pursue a 3rd party review because of high cost to do this. Also looked at pouches versus cans.

They are seeing a little more pressure from retail customers about footprinting. They want to push back and share the cost with retailers since retailers are just as invested in the outcome. It behooves retailers to go in on it all together. They don't expect LCA results within a product category to vary much, and assumptions going into a study can vary so widely, that it's not worth the effort.

Right now, water's the issue. Sources of data around water footprinting vary a lot – USDA versus UN, etc. Need consistent data points.

Benefits

Environmental benefits? Expected and actual were rated "moderate". Benefits include reducing the impact of own product production, and retailers are requesting this information so having the information gives you an edge over competition. No clear way of demonstrating benefits. LCA opens peoples' eyes, but LCAs are more for education/awareness than anything else. Financial benefits? Both expected and actual were rated "low". They included reduced expenses under own direct operational control (for example, purchased electricity), but there is no clear way of demonstrating.

Barriers to wider adoption of PEF (especially in Pacific Northwest)

"LCA" means something very specific to companies. Other barriers include cost, staff, diverse products, lack of supplier support, expense of data collection, too many frameworks, how to use data, not sure how to use info. "It's different per product, but when it comes to food products, ensuring food safety is the number one barrier and priority. Sometimes more eco-friendly product designs are more expensive and have not been in the market long enough to instill food safety confidence." Consumers may be driven more by perception than sound science based in life cycle thinking. A new product may appear eco-unfriendly if the day's hot environmental topic isn't emphasized on a label, even though that product may indeed be better from a holistic perspective. It is endless and hard to communicate correctly to consumers. Updating PEFs/ EPDs every couple years seems fruitless. It's unclear what is the ideal updating period. There are already too many standards and so a "golden standard" would be needed. Common practices might be more helpful.

Potential solutions

Would be good for industries to get together to discuss: Food Processing Association is on the right track. Give rebates and tax breaks for equipment. Can't just ask to do cap and trade; need a market mechanism to help companies invest in capital to do these things. In small states, should hold energy forums with major food manufacturers to share best practices. NWFPA requests that members report carbon emissions, which helps engage these companies in "friendly" competition.

Brewery, no PEF experience (Br1N). United States, size = 51 to 100 employees

Experience

Has done some assessment, and has taken some action in response to assessment, although no communication with consumers. A third party helped establish the framework for a type of Environmental Product Label, but it was difficult to collect data for it, and hasn't updated it in 18 months. Feels compelled to keep using the EPD because it has been paid for and it should be as simple as just needing to keep adding data.

Is interested to "do the right thing", and developed the notion that putting beer into cans was one such activity (better for the beer, with the added benefit of being able to recycle the can, and travels better, doesn't break like glass does). Obtained this information from can manufacturer.

Has been involved with Energy Trust projects – they make it easy to do things – provide seed money to go after things, such as lighting and insulation projects, as well as lean manufacturing strategies – efficiency goals (good for environmental and financial aspects). Is interested in industrial energy efficiency – but more applicable to larger companies.

Feels burdened by data collection. They're too small and they can't allocate a job to keeping track of the numbers and enter data. They look for "easy" measures to do the right thing, but they don't do a lot of the monitoring

Benefits

Has observed moderate benefits from reducing operational expenses. Doing things right" leads to savings and efficiencies and lowered utility use. The Oregon Manufacturers Extension Partnership (OMEP) offers lean manufacturing help by consulting with this company to help determine operational inefficiencies. This might help marketing too, but they aren't very blatant about it. Feels it is "cheesy" to make these claims, and it's easy to get your cheesy claims knocked down if they aren't well supported.

Barriers to wider adoption of PEF (especially in Pacific Northwest)

The time and energy to keep data up to date is cumbersome.

Potential solutions

No 3rd party help received: Maybe the government could incentivize the process better.

Would love to get an auditor to do internal assessment – audit use of utilities, energy, electricity (OSU offers this service)....so it sounds like measurement and helping identify hotspots would be very helpful.

Supply chain is a huge unknown for this person, and hasn't pursued this at all.

Automation/monitoring/interpretation/acting on it is laborious.

At Brewers conferences, there are environmental topics to get informed about. Industry is trying to raise the standards....very collaborative group of brewers.

Brewery, PEF experience (Br2Y). United States, size = 101 to 250 employees

Experience

Assessments: has done all those proposed in our survey except “back of envelope”. Participated in an LCA with IERE: wanted a PCR for beer-brewing, and his company was a pilot company in project. IERE did the number crunching. This company provided the data (ingredients, operational requirements, approximations, etc). “Back-engineered” the data. This work has helped them think about packaging schemes. They were provided a tool to evaluate packaging decisions for their best selling product. The action they implemented was switching from 22-oz glass bottles to cans for single-use packaging, as this was the “lowest hanging fruit”. Actions: has done all (in response to assessments) except engaged with suppliers.

Benefits

Environmental benefits, expected and actual: 4/6 and 3/6: Reducing the impact of our suppliers’ practices; changed products/suppliers based on PEF - known effect based on PEF

Financial benefits, expected and actual: 2/6: Enhanced corporate or brand recognition from shareholders and/or consumers; no clear ways of showing any benefit

Barriers to wider adoption of PEF (especially in Pacific Northwest)

LCA is really only used for internal decisions and consumers are not driven by PEF information to make decisions. No additional market demand from the LCA. LCA info needs to be in digestible chunks.

Consumers are getting more sophisticated and LCA is too big a step.

“While LCA data is useful internally for making decisions about our supply chain or other options, I'm afraid there is not a simple, elegant way to share the information with consumers. Without a consistent and widely used consumer-facing label, it is difficult to imagine sharing LCA data in any substantial way (beyond on our website for sophisticated users to find.)”

Other barriers include cost, not sure how to use the information.

Potential solutions

It would be helpful to receive “standardized frameworks and communication methodologies”. PEF in the future “provides useful, objective information on which decisions can be based”. Finding a standardized format by which to present LCA data. Wants comparison between to-go packaging. Are compostables better than recyclables? What’s the next least-bad material? Since there are no ground-rules for scope and boundaries about LCAs, it’s hard to compare across existing LCA info. DEQ could help to frame what the front-end and back-end barriers, and standardizing output.

“Broader uptake (assuming standards made data comparable) would make environmental criteria more realistic as a part of a decision-making matrix. For instance, in seeking a replacement to-go cup for a restaurant, having easily comparable LCAs for the options would allow for a clear understanding of the environmental impacts of one choice over the other. For now, such decisions are based on industry (biased) information or simply cost/aesthetic considerations.”

Brewers Association is a good convener for info – have a tab on website about sustainability: water, energy, waste (help triage all the info out there), though maybe it's not LCA-based.

Packaging, PEF experience (Pc1Y). United States, size = 10,000 + employees

Experience

Has done all assessments we proposes, except supply chain analysis. Has done most actions we proposed (except for engage with suppliers), but not in response to the assessments.

In around 2006, the green chemistry movement hit the cleaning products sector, and this individual purchased a commercial LCA software and started doing some LCA for some products. Decided to do carbon footprint for every product in line in attempt to holistically learn more about entire life cycle impacts of those products. B2B customers were asking for this information, so this was the main motivation. Purchased another commercial software to perform packaging LCAs. A huge part of the business is food packaging; LCA of packaging MUST be put into the context of the product it protects – there's an optimization problem to solve.

Fundamentally, PEF makes more sense for B2B than for consumer products because average consumer knowledge is not advanced enough to interpret the information.

Benefits

For both environmental and financial expected and actual benefits, the score was 4/6 and 3/6. The environmental benefits included helping customers to select more environmentally beneficial products, and helping customers and/or consumers to use products in ways that reduce environmental impacts. The key payoff was due to their focus on preventing food waste and reducing product damage through supply chains. Prior to undertaking the action, this person had an educated guess about what the payoffs would be. The financial benefits included reduced expenses under own direct operational control and reduced expenses in supply chain operations. Specifically, observed reduction in food waste/reduction in product damage during transit/reduction in energy and water during cleaning.

There is no longer much customer demand for the data. Some financial benefits stem from responding to requests for proposals (RFPs) for which additional points are given for this work. Also, one needs a strong champion and sales organization model to value this work and want to use it as a differentiator. "Premium" products that provide more value; this can be a good differentiator. Can use this info to justify the cost premium relative to competitors.

Barriers to wider adoption of PEF (especially in Pacific Northwest)

Mainly cost, staff, data collection. "We find that the scope definition is a critical part of product footprinting. Without taking into account both upstream and downstream activities, one can easily be misled by LCA results. This speaks to the need for a holistic approach, so that a product's "handprint" is determined, not just its "footprint". LCA takes into account the full system. Focusing solely on waste at end of life is one well-known and political indicator, but leaves out the full picture.

Potential solutions

Require holistic approach—an analysis of a product must consider the broader application that it is used in, otherwise it may lead to erroneous conclusions. Resources are not the limiting factor—need some pull from the marketplace for this information. The biggest customers reward suppliers that do this

work. Need to be able to demonstrate ROI to justify the work. Regulations are not favorable—must reward voluntary efforts.

Building/Concrete, PEF experience (Bu1Y). United States, size = unknown

Experience

They produce EPDs for 15 or so products, available to customers upon request. They have selected top 100 products to have EPDs provided automatically, eventually to scale to health product declarations.

Benefits

Probably the main motivation is from a marketing standpoint: in the building industry, LEED v4 requires multi-indicator information, and they anticipate preferential selection based on meeting those requirements. However, as of today, it still comes down to price. Another motivation is social responsibility; it's the right thing to do. They can improve themselves through the LCA process (it has more of an internal focus). Not market-related. They are seeing a little ROI from PEF efforts.

Barriers to wider adoption of PEF (especially in Pacific Northwest)

The creation of footprints is expensive, and one needs capital, dedicated resources, and an ROI. Finding the right people to do it is hard, especially internally, with the right skillset. Often you need third party if you want some accuracy/credibility. Not a lot of companies have this. It's hard to know what to do with info: challenge or opportunity: they used it as an opportunity to improve products! A challenge in market is making the footprint part of the conversation; everything is very cost-centric in the conversation. Also, importantly, THOSE MAKING THE PURCHASING DECISIONS are not the environmental people, and the footprinting information needs to be part of purchasing decision. Their customers don't care about environment, or it's a minor point in how they purchase their products. With regard to requiring EPDs in purchasing contracts, the challenge is that architects don't want to build something into a contract given that EPDs are such a nascent effort. Chicken-and-egg scenario; one waiting for the other to push on this.

Potential solutions

Agencies should consider addressing the following:

DOT/school districts, and owners of infrastructure are asking for footprinting information, and they should stick to those requests and interpret the footprints fairly.

Education: agencies probably aren't the best source to disseminate education (should allow markets to sort it out) but agencies should drive the effort. Anyone who owns infrastructure should require an LCA or green-building standard (with a life-cycle approach). Third parties can identify what to provide (what set of criteria are helpful based on their own goals), ask for it and not back down from it (as it is expensive/an investment for providers to provide the requested information). Third parties can help lay down this challenge to industries once these third parties have a clear plan and have educated themselves about the complexities and implications of using PEF in purchasing decisions.

Building/Concrete, no PEF experience (Bu2N). United States, size = 101 to 250 employees

Experience

They have done many assessment activities and have done some actions, but not necessarily in response to the assessments. They have been involved in sustainability conversations in the industry. Feels that the local environmental agencies are overly focused on “cradle-to-gate” LCAs instead of cradle-to-grave LCAs, which can lead to unfair biasing of purchasing decisions.

Benefits

Expects moderate environmental benefits, and very low financial benefits. At this time there is not a measurable economic benefit compared to the expense.

Barriers to wider adoption of PEF (especially in Pacific Northwest)

Barriers include cost, labor, and use of information. It would cost \$30K to create the initial EPDs for all products (not including maintenance costs). If no one makes a buying decision based on those, there is no good reason to do it. Cost drives sales in this building market. In speaking with customers doing private residential work, no one goes with the “eco-friendly” product. They’d think in Seattle it would be the opposite.

Another challenge is that most people don’t want LCA, they want a carbon inventory. Purchasers encourage cradle to gate LCAs (which are not true LCAs), and this creates reluctance around pursuing and using LCA. Financial benefits will need to come from customers demanding information in purchasing decisions to demonstrate an ROI.

There is much uncertainty between buyers and sellers. A designer may ask for EPDs in their RFP, but is not sure if client will stand by it. Prospective producers invest in producing the EPD but are at times let down when the client decides not to use EPD in the contract decision. Therefore, spending money on EPDs has uncertain payoffs. A fear develops after a while of what becomes the standard of measure if it’s not credible LCA. Can’t do LCA until you know what it’s used for. Carbon inventories are not LCAs. To date, no one has written specification requiring EPDs. If there is no 3rd party verification of LCA results in State purchasing decisions, there will be no trust.

Potential solutions

National Concrete Association is providing some tools, but doesn’t have many takers at this point. Within the industry there are some efforts. Fair scope and boundary delineation is needed. The state should not be unfairly choosing winners and losers. A third party verification system should be in place. Also, more certainty is needed in the contracting process with regard to committing to the use of EPDs in a purchasing decision.

Building/Concrete, no PEF experience (Bu3N). United States, size = 1 to 50 employees

Experience

This company has done all the assessments except supply chain evaluation, and in terms of actions has changed materials and engaged with suppliers, but not in response to assessments.

They do green building consulting, communications and outreach. Role is to help clients get a certification. Some projects use life cycle approach; some use just bits and pieces. In building sector, budgets are small and you must focus on hotspots in terms of both environmental and cost benefits.

Without a life cycle approach, generally, hotspots are identified using available research to rank and determine relative impacts, such as a high-level screening of whole picture. Use available benchmarks: USGBC and other research organizations. USGBC has a focus on buildings, and is pretty good about sharing information and explaining why some credits are used and why they are ranked a certain way. Can help this company determine what to prioritize based on credits available.

Benefits

Expected benefits, environmental = 5/6, financial = 3/6. There is a big delta in the ability for businesses to operate/develop products in a way to benefit the environment. Financial benefits are weighted more heavily than environmental ones for most companies. The delta of cost savings will vary. Some companies are motivated by marketing to retain existing clients...it's hard to quantify the customer behavior. There is a lot of indirect value that is hard to measure.

Barriers to wider adoption of PEF (especially in Pacific Northwest)

Too many products, supply chain complexity, cost, staff time. They are a consulting firm so the identification of PEF challenges and benefits are more applicable to their clients, although it's somewhat applicable to their operations, as opposed to actual products made by them. They're very small and focus on helping clients improve their footprints, with small efforts to operate as efficiently as possible and work with eco-suppliers where possible.

Potential solutions

Assistance could come in the forms of measuring and communicating. "A framework specific to individual sectors, a mechanism for promoting these businesses and products to the clients of each sector, and perhaps an award system." An award system in the Pacific Northwest would be great to see. Anything to help prioritize and triage actions based on biggest bang for the buck – no one wants to "greenwash" so they want 3rd party approval. Perhaps a quantified results or rating system to stamp off the effort would be useful. Sharing knowledge is important. Helping businesses communicate their results with consumers is helpful. "A national program, with labeling, would be a way to create meaningful decisions in the marketplace, much like food ingredients."

The State should stay out of such efforts, in general. Maybe they could present some best practices, best management, and suggestions, and point folks to the resources. Help assess the resources out there and help people choose the right ones.

Government, PEF experience (Go1Y). United States

Experience

This government agency is involved in sustainable efforts in several ways: through a “sustainable purchasing policy” (informed by product labeling), and as a designated “Life Cycle City”, with the mission of building LCA into purchasing policy, pushing LCAs as far as possible and asking whether labels exist in RFPs...although it’s rare, it’s important to start asking for it and spur the thinking. The resolution is about life cycle thinking and using a holistic approach in purchasing decisions. Takes many shapes; it’s an evolution. The city owns utilities and manages waste water, and is committed to periodically inventorying the life cycle inventory of these utilities. They evaluate 8+ categories of impact and are low in almost all of them.

The biggest areas being promoted in the Life Cycle City initiative area:

1. Fostering a very “clean” city: power is from hydro, good processes for wastewater in the North West US. Low footprint.
2. Welcoming economic development: this particular city is great for expanding businesses and life cycle oriented ones – LCI data are available for them to use, as well as affordable utilities.
3. IERE is encouraging businesses to get their product labels: this individual is not sure this initiative has brought in new business to the area, but the city has gone along with it because LEED now provides a point for EPD existence.
4. Assistance to the brewery industry and culture: availability of software any brewery can use to create a label for any batch of beer.

It’s early in a 30-year “Life Cycle City” process; there is much progress to be made in terms of economic development and improvement of waste treatment emissions controls.

Benefits

They have a long term vision of wanting to see improvement in the environmental inventories. They have not been tracking short-term ROI or other financial metrics. IERE might be helping keep track of how the evolution of EDPs is going. Some departments are starting to ask upstream/procurement questions, so some learning is being observed.

Barriers to wider adoption of PEF (especially in Pacific Northwest)

Lack of labels to help purchasers make decisions.

Potential solutions

Make a business carbon calculator, customized to small/medium businesses, especially for utilities and such. Local government helps identify the local parameters to include. The “Life Cycle City” initiative will hopefully lead to national standard for which many products will provide EPDs because consumers want this information. They hope that the life cycle mentality spreads. Purchasing requirements and labels are really helpful for any government staff.