

iPCB Workshop – October 9, 2019
Transcribed Notes from the Breakout Groups Report Back

Workshop Breakout Group - Market Drivers:

1. What alternatives are most needed with respect to market drivers and reducing iPCBs? Where in the supply chain is the best place to intervene? What are some of those alternatives?
2. What are some solutions or innovations? One is to bring PCB 11 down to one PPM in pigments to reduce impact to recycling and downstream products. Consider process ways to do that and consider doing that with what pigments exist, not making a new pigment. Use quality products and products that are tested. Increase the public awareness with respect to iPCB and products and push the market in that direction. Use social media outreach by large corporations to brand themselves as sustainable. Target core corporations that want to engage in the circular economy concept. More outreach with larger companies.
3. Provide printing consultations to include informing clients regarding environmental impact. We heard yesterday how clients will go to pigment manufacturers or printers, or printing ink manufacturers and say, "This is what I need for my Starbucks logo, or this is what I need for this logo and I need durability, or I need another aspect." During that consultation printers/printing ink manufacturers have the opportunity to educate their clients saying, "Well, you could have a color that is lower in PCBs and it will cost this, you can have this, but you'll reduce your durability." Why not include in that consultation? While informing clients, make them aware of the tradeoffs, (eg., it's not going to be as bright or as brilliant, however you're being more environmentally friendly). You might include the environmentally friendly them as part of your brand concepts. Clients may not understand that the choices that they're making might result in added toxicity or branding concepts that impact revenue generation.
4. Align on the facts, we are all thinking different things about PCBs: what's in the water, what's in the dye, what's in pigments? Get stakeholders to keep working together and one of the first things they really should do is agree on the facts or at least some of them.
5. It is also possible to do less printing, use less packaging, use fewer inks and pigments. Do big purchases need elaborate packaging? Does Amazon need to advertise on their packaging? They're doing just fine. So maybe on the bigger purchases from the bigger corporations with large quantities of packaging don't need as much printing or packaging, this is a great way to save money and use less packaging.
6. We had some recycling experts in our group. It's interesting and I heard this from the first group, that we should go back to a multi-stream or segregated recycling. It seems like a step backwards, but we're having issues right now and people who are recycling have very little control. This may be low hanging fruit and a good place to start.
7. Another low hanging fruit example is the use of Yellow 13 in road paint.
8. Reduction in packaging and printing in the waste stream. This is where the national brands come in - we can educate national brands. You can't look at the supply chain and just make a change right in the middle. You've got to make it all the way through. Let's start at the brand level and make sure we have some buy in there. Then they're going to demand that their packaging be low iPCBs. This will ripple through the supply chain.
9. Where is PCB 11 coming from and are we targeting the right thing?
10. Consider that there are alternative solutions and if there are other sources of which we are unaware.

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11. A public awareness campaign regarding iPCBs could be done statewide by Ecology.
12. Can we start with changing pigments used for products that don't need that resiliency or don't need to be super bright, for example, newsprint? Perhaps it's communicating this to downstream suppliers and ensuring that they use high quality product pigments. Be focused on existing processes and existing products, not reinventing the wheel. Do a complete alternatives assessment to ensure that any alternatives we think are better, are truly functional and don't have any unintentional consequences.

Workshop Breakout Group - Regulatory Group #1:

1. An overarching issue is that improvements need to be made to the recycling program. From the business interests represented in the room single stream recycling, that they have to manage and deal with, clearly has been a mistake. We need to create incentives and disincentives to move back towards a multi-stream recycling program.
2. Additional research needs to be conducted on consumer products. Testing of products can inform consumers so that they can make educated choices with their dollars. Another research area is to understand what health risks are associated with PCB 11 and other congeners. So that if there were an opportunity to segregate out all the different risks of congeners of PCBs that there would be research there that would support, or not, that segregation to assist regulators in setting limits.
3. We need market based solutions. The political differences between Idaho and Washington make it unlikely that a regulatory solution will be aligned in both states. What market based solution could be employed when a regulatory solution lacks political backing? This could be a rewards or certification program that in one state might drive producers to, to move towards a lower limit of iPCBs. It's unlikely that companies will make products that are unique to each of the States they work in. So they're going to try and find products that meet the strictest standard to distribute and sell products across the country or even globally. We can't just focus on end of pipe since this is not an end of pipe issue. This is a collective issue, we all use products that contain iPCBs. That may be the reason we should look more at consumer products. Our buying habits contribute to this challenging issue and can be leveraged in a solution to it.
4. Can regulatory drivers be innovation initiatives? How can government incentivize innovation to remove inadvertent PCBs from products? This requires education, understanding that what we are doing in recycling and how it exacerbates the iPCB problem. The additional research and future market based solutions can educate the public on issues. PSAs or other education and outreach opportunities exist and can drive consumer behavior.

Workshop Breakout Group - Regulatory Group # 2:

1. We came up with some opportunities to align policies and regulations. We talked about having more workshops in forums like this where we get industry and people involved in regulations together to talk about these issues. We need more inter- and intra-agency alignment to make compliance more straightforward and possible under unified strategies. Drinking water has a different PCP limit than do the dischargers. We need more practical limitations, there isn't a

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whole lot of understanding there between what industry is doing and what the regulations require.

2. There needs to be more tests on runoff because there's that discrepancy between what we're finding in the water and where these abuses are possibly coming from.
3. Can regulation promote innovation? We talked about how we need to look more into PCB 11 and the models and the dyes. There are barriers to bring new pigments and chemicals to the market because it's not very cost efficient to produce some new pigments or get them to market. There are a lot of barriers there and limitations to testing as well. New pigments are also regulated, depending on their use.
4. Where do we intervene in the supply chain? We need to understand the entire issue. We need more research first and everyone would have to be on board. We need everyone in the supply chain before drastic changes are made.
5. Couldn't the paper mill do their own research on types of recycling because maybe there's different options there? What kind of solvents are used to deink recycled paper? Could this be a source of iPCBs?
6. Also, manufacturers can employ best practices in formulating and manufacturing pigments. Different temperatures may be having some effect on iPCB production.

Workshop Breakout Group - Regulatory Group #3:

1. What can be done to provide incentives for innovation? We need to have a more holistic view. Look at the whole situation. Don't go try to pick a certain point and say we want to be optimize over here, over there. Regulations are getting in the way of recycling so how can we change that system?
2. Look at cradle to grave lifecycle of the product. Frequently. Generally, we look at part of the lifecycle, for example, ethanol. We looked at what we're using this deep stock over here that was free because it's a leftover from growing corn. We pretend that's totally free. Is it really free? Look at the subsidies for corn. Thus incents more people to grow corn. You need more fertilizers, diesel fuel to run the tractors. And did you take that into account with your life cycle analysis? And people will look at it with say both. It's recycling. Recycling is a really good idea. Okay, we'll collect it all. What are we going to do with them? Just let it pile up. Uh, we didn't use recycled, we used to just pile things up, haul it out and drop it into the ocean side. That way it's a very good solution. And we've said, well, let's incinerate it. That's not a very good solution. There's absolutely no incentive for somebody to work on developing a superior method of incineration that generates both energy and reduces waste because of regulations. IPE has struggled with this process on river right now for 20 years and the regulations have markedly changed over the 20 years. Is it truly attainable? Is the goal the main driving goal, are you really getting there?
3. Should we have incentives for innovation? That was a critical one. My experience, regulations, laws and court decisions are not incentives for, for improvement or are only drivers in a distant sense. If we came up with a method to reduce iPCBs and said that every pigment that's manufactured the goal is zero PCBs. That project will never get initiated because management

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would vote it down. They would never approve it because even though the project might be successful in reducing iPCBs the number still isn't going to be zero.

4. The way it's written now the state will constantly be sued by somebody because attaining the regulation isn't possible, companies will be constantly sued because we're working on never ending variants. That doesn't help anyone, except the lawyers, who will make money. So what does really the goal of we're trying to attain, and do we really want to have this never ending argument going on? The goal has to be reasonable and attainable.
5. Where in the supply chain should we intervene? We think the biggest driver is the brand owners. In some cases it might be purchasing regulation that we have here in Washington
6. because they're representing the state and they're saying that there are certain things that we don't want to have and products that we purchased. The extent that those regulations are tangible targets the brand owner could be involved. They have a group larger than at this meeting that do nothing but read every single day, every blog, every news article, every report, every journal. Anytime the word Nestle shows up in print or on the air, they know about it and it drives them crazy. They don't want to see a picture of a product that comes from them up on somebody's testing page. They'll try to avoid exposure in the future. These are good brands to target because they'll drive change in their supply chain. Walmart mandated some changes in the products that they saw, either the packaging itself or the product. There are changes in the paints for instance, that are being sold at Home Depot and Lowe's. The target change needs to be attainable. That's the important thing. That's major thing to drive to the change so that the consumers, regardless of who the consumer or the brands are, the risks can be a major driver.

Workshop Breakout Group - Procurement:

1. There are a lot more questions than we have answers to about procurement and good language for contracts based on procurement policies.
2. Who should adopt procurement policies around inadvertently generated PCBs? Who are the big players in the space? What is government's role in, in driving procurement? What is the influence of HP setting up standard? What are the big companies with leverage that might be able to guide the market in a new direction? That raises a lot of questions because there are unintended consequences that can come from that. For example, a scenario where there's a packaging manufacturer that has decided to set a very low or no PCB standard and that then governs what they're able to provide their customers in terms of color and performance. What is stopping their customer from then going to another manufacturer? If there is going to be a standard, what are the potential unintended consequences for the market? What are the economic consequences and how might we, how might we think those through so that we're not, we're not stuck with something unintended.
3. What would make a successful procurement policy and, and what would that look like? What do we need to know about before we can really start to answer this question? We need more data around concentrations that we're seeing in products, where are iPCBs showing up? How are they getting there? We need data transparency. Do industries that are creating the same type of product know where they stand in comparison to their counterparts? How might we communicate that to them and share knowledge? We need low cost testing, to be sensitive to

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small businesses, or economically disadvantaged businesses that we're trying, at least from the government procurement side, to equitably incorporate into the world of contracting. If we're requiring a \$1,500 test every time they come in for a contract, what's the economic burden that, that gets placed on those businesses? Does that change their access to this particular industry?

4. Would a procurement policy be a universal policy? Or does it need to be context specific? There are advantages and disadvantages to both approaches. A universal policy means that there's some certainty. We're all speaking the same language. We know what a standard would be and there's a number out there that we can all point to. That being said, we talked a lot about how road paint is really different than a coating that goes on a product. With all of these different types of products and applications it could be very challenging to arrive at one single number that's going to address all of the needs of particular industries. There's also a geographic component to this conversation. So Washington state is acutely aware and interested in PCBs. But what are the economic and environmental needs state by state and what would those levels be? Would those levels be different outside of Washington State? All of those are questions we'll have to puzzle through as we keep working, working through this question. These questions are excellent starting points for future conversations.

Ideas from the online participants:

1. To better understand what the best attainable level of PCBs in pigments is for the currently used pigments.
2. What is the typical level that we find in pigments, what are the range of levels? I know that there's a variety of different levels and so we could better understand that and kind of get a better sense of if there is more that can be achieved using the current pigments and what would be the reasonable levels for that.
3. There are some different sustainable green printing initiatives, what can we learn from those groups about stakeholder engagement, limits, innovation, etc. There's healthy printing initiative we heard from, in Europe. There's the sustainable green printing partnership. And there's other groups who talk about how to, how to print sustainably and how to have chronic stewardship of packaging, for example. It would be great if these programs have options to show continuing improvements required of their printers.
4. Finding out what levels of PCBs are present in their printing inks or in their final products. As that information is gathered and shared back with sustainable printing initiatives that could lead towards learning about what a reasonable level is right now, what a current level is, and what might be attainable.
5. Set some targets or criteria for procurement or within the initiative to set certain targets for reducing those levels.
6. There is some history in doing this kind of work. There are some similarities to a great lakes printing project. It was a pollution prevention project a while back with technical assistant to printers to reduce waste.
7. There might be a role where a state pollution prevention programs could assist with this as well.