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Sustainable Paint Indexing for the future Green Built Environment – Part 1

By: Tony F. Margani – EVP Science/Environment for EVOpaint™

What happens when you introduce a new standard? Interested parties reassess what they're currently doing, compare models and finally determine to stay the course and risk being left behind or resolve to stay current and realize the benefits. We follow this almost reactionary process because what we consider best practices may no longer be. This is the behavioral connection at which developers, builders, homeowners, retailers and painters [stakeholders] are crafting our Green Built Environment.

Focusing on consumption profiles and product optimization as it affects paint in the new construction and maintenance markets, we will delve into topics that do not come from the industry's customary marketing perspective [reviewing the hottest color and how it makes you feel]. We will come from a position of tangible, unprecedented sustainable technology developed and deployed from Toronto that is changing the way the world thinks about paint's relationship to our environment.

What do I define Sustainable Paint Indexing [SPI] to be?

Anybody keeping current on business news knows that since 2008 Wal-Mart, the world's largest retailer, has publicly committed to develop and implement what they call a 'Live Better Scorecard'. What this means is that Wal-Mart will optimize the life-cycle of each product they sell towards zero waste and ensure that suppliers of these items will be held to the utmost 'green' standard as measured by The Sustainability Consortium, a group that is funded in part by Wal-Mart. This will then allow the consumer instant access to data at point of purchase on how well a particular item performs.

Definition: A balanced incentive in both economy and environment, linked to the *key* ability to *quantify* the 'green' aspects of a paint product.

By this, the consumer is empowered through a total ownership at the transaction point and being eco-friendly becomes profitable because the manufacturer transfers the burden of the associated costs into his purview and ties it to the economic incentive that drives the purchasing process. Because consumers don't want to nor should pay more for eco-friendly products, sustainable paint must completely adapt to their habits. This tiny little expression of self-interest by all stakeholders will recalibrate the consumption patterns of our world's resources and come to characterize SPI for the industry. It is only when all stakeholders benefit that the green built environment will sky rocket.

It is the way of the future.

We don't think about paint except when we're faced with the chore of having to do it, but this business has been quietly coating our walls for generations without a peep of innovation since the introduction of water-based paints in the 1950's. And let's face it, paint isn't popular compared to consumer electronics and electric cars and yet I bet you can't think of any place that isn't painted in one way or another. It is a sleeping giant of an industry. It is also stuck in the environmental dark ages.

Through our desire to decorate, (painting is still the most cost-effective way to renovate, especially in a struggling economy) our need to protect and maintain newly built and older surfaces plus the capacity to service a broad range of market sectors, the global coatings conglomerates have become exceedingly

wealthy. Among the most consumptive markets is new construction and maintenance markets, particularly commercial/industrial real estate followed by residential communities in both high and low rise. Consumers today choose products that raise their profile and developers/builders know it's smart and profitable to be at the forefront of introducing effective technology that improves deficiencies and standards. This commitment speaks well for quality and long-term value and helps potential commercial and residential owners prefer developments that meet their economic and environmental objectives. Unfortunately, when it comes to paint, all stakeholders are unknowingly part of the problem.

The annual North American paint waste system quietly generates upwards of 488 Billion litres that is never used or recycled, it just gets dumped into our water table. Current efforts are costly, reactionary and cyclical; after all, recycling depends on waste creation to be successful. This is inherently paradoxical. Consider further life-cycle wastes from raw material extraction, transportation, manufacturing, water, energy and plastic/metal packaging, and you start to get a sense that even today's best 'green' methods that try to manage the flow of consumer paint waste, don't even give us a reprieve. Coupled with user costs in time and money to deliver their waste, the underlying notion of improper disposal prevails.

We need to stem habitual waste at the source, which can only mean we need to prevent it.

It may be so that "Big Paint" companies have lost touch with the concept of the popular environmental adage of our youth 'reduce, reuse, recycle' but there is a reason why the first 'R' is reduce and the last is recycle, because "Reduce" is hard to do! Properly innovated paint products must reduce material and labor costs to their absolute minimum ***simultaneously*** preventing wastes; all while maintaining sufficient consumption that yields desired results without compromise. This allows for a transparent, optimized response for paint in the new construction phase and continuously through the maintenance/remodelling lifespan. The most environmentally friendly paint must always be the one you consume the least of.

With that in mind let me propose something radically fundamental in its cause and effect, its economy and environment or even its incentive and profitability:

A fully optimized, sustainable and quantifiable, one-coat paint that never requires a primer or second coat to achieve a finished result over any surface. This delivers labor, time and material cost savings of at least 66% to the developer/builder and painter/homeowner, plus prevents 66% of life-cycle wastes in raw material extraction, embodied carbon, transport, energy, production and consumer use. This rewards all stakeholders with an effortless, tangible, built in eco-incentive.

If we are to break the casual obligation to paint sustainability, all stakeholders must lead the market. By reassessing what we're currently doing, there will be an understanding, then a choice towards self-interest, profitability and a movement away from wasteful outdated standards that dictate how we consume paint. Painting will become about incentive and measurable benefits that align with today's environmental objectives. This is where consumer loyalties are moving, so this is where SPI must exist.

I applaud Wal-Mart leadership for a healthier shopping experience but according to their initiatives, paint is slotted among the very last of their products to be integrated into how we should 'live better'. Let's not blame them completely though, their suppliers after all, no matter how well they market their products, aren't meeting this new standard for paint sustainability anyway. The lethargic attitude of the paint industry can no longer ignore SPI for all other stakeholders.

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Sustainable Paint Indexing for the future Green Built Environment - Part 2

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Over the course of the last generation, construction industry experts and associations in partnership with all levels of government have continued to move towards a Green Built Environment. Understanding the challenges and opportunities in the area of intelligent green building technologies, these key players sanction models of innovation. Current advancements for new construction and existing property markets clarify the need to better manage the balance of best practices and optimized building materials with particular control over the cost, consumption and waste impact for every commercial/industrial unit, home and condominium built.

As the developer/builder seeks to meet market requirements with minimum investment in material and labor, an adoption of green construction technology is slow as all known products and techniques significantly add to costs. This has led to an instilled reliability on government incentives, subsidies and green financing structures to even consider deployment. Unfortunately, this leaves the public with sporadic eco-suites that some builders assemble as a show piece for media events sowing tales of what 'can be' rather than mainstream acceptance by offering purchasers what 'is'. Realizing the need for this shift is a powerful idea to build on right now while complex and costly smart building innovation determines how to be more affordable in the future.

In spite of this a number of developers/builders are making a commitment to sustainability, re-enforcing that it is the way of the future. They recognize that even higher initial costs are justified with an appropriate payback through reduced operating expenditures, increased building value and image. Realistically, however, they demand technology that saves money while streamlining best practices. "Going green" has to shift from being a vague buzz phrase and become measurable.

They demand what I defined the SPI to be:

A balanced incentive in both economy and environment, linked to the *key* ability to *quantify* the 'green' aspects of a paint product.

In response to this need let's refer back to the standard I proposed in Part 1 -

A fully optimized, sustainable and quantifiable, one-coat paint that never requires a primer or second coat to achieve a finished result over any surface. This delivers labor, time and material cost savings of at least 66% to the developer/builder and painter/homeowner, plus prevents 66% of life-cycle wastes in raw material extraction, embodied carbon, transport, energy, production and consumer use. This rewards all stakeholders with an effortless, tangible, built in eco-incentive.

Unlike green construction technologies that are costly to manufacture and complex to position into building processes, paint is inexpensive to produce by nature of its purpose and is adaptable. The standard as I propose not only offers a very easy endeavour into 'green' practices but actually saves money without compromise to the end result. Because incentive and reduction is built into this technology system, the value proposition is significant by streamlining processes and acts as a path of least resistance. Through SPI, developers/builders support a system that prevents maximum life-cycle wastes in raw material extraction and containers used for production, the most energy and carbon friendly supply chain and an

unprecedented reduction in paint and labor required for equal square footage. There is no other green construction technology that actually saves money and makes such a commitment to our environment.

The CaGBC/USGBC (Canadian/US Green Building Council) popular for promoting the LEED certification system has done some great work in shifting developers/builders into varying degrees of green design, building and operation. It's encouraging to see these commitments recognized and awarded but I believe we need to take the next step towards real incentive by delivering an immediate ROI.

Given that it's an added cost for stakeholders to have employees become a LEED AP [accredited professional] or work through a consultant to help navigate the landscape, doesn't it make sense for an AP to stimulate best practices that actually save maximum time and money, realizing that SPI helps offset costs incurred operating under a 'green' banner? It remains accurate that it is only when all stakeholders benefit that the Green Built Environment will sky rocket.

Consumers today choose products that raise their profile and developers/builders know it's smart and profitable to be at the forefront of introducing effective technology that improves deficiencies and standards as this commitment speaks well for quality and long-term value. This helps potential commercial and residential owners favor developments that meet their economic and environmental objectives.

With some experts placing 80% of the environmental footprint of paint products coming from raw material extraction, transport and production and coupling that with the accepted notion that buildings have an big impact on the resources upon which we all depend; the construction industry comes to consume more than one-third of all primary energy, two thirds of electricity, one-third of all raw materials along with a growing percentage of our freshwater resources. This intense consumption makes new construction the ideal candidate for resource conservation and life-cycle waste prevention through SPI.

When you think of the paint industry's chronology of improvement in matters of sustainability through incentive, developers/builders/painters have really had to put up with a lot over the last 50 years (oil to latex, brush to roller, roller to spray gun). But through all the convoluted messaging from the paint industry today, there is something good that has come of it, namely that the general public has been conditioned to understand that fewer coats makes sense. This new frame of mind is an indicator that when partnered with SPI, becomes an obvious addition to the portfolio of valued 'green' advancements for all stakeholders. We need to redefine our idea of paint to manage consumption. It is of central concern that the construction industry lead in this initiative, instigating a fundamental shift in architectural coatings.

Properly innovated paint products must reduce material and labor costs to their absolute minimum ***simultaneously*** preventing wastes; all while maintaining sufficient consumption that yields desired results without compromise. This allows for a transparent, optimized response for paint in the new construction phase and continuously through the maintenance/remodelling lifespan. The most environmentally friendly paint must always be the one you consume the least of.

While paint maintains a healthy market acceptance, stakeholders do not have a modern, adaptable palette of innovative products to better manage their use. Because in the end it's really all about choice, and hopefully it's a choice for the best, because high performance buildings increase real estate assets.

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Sustainable Paint Indexing for the future Green Built Environment – Part 3

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Waste is the original pollution.

In the outfield at Fenway Park in Boston, there's a large thirty-seven foot wall that baseball calls 'The Green Monster'. It is ominous, it is intimidating and yet it is surprisingly easy to hit over. Only being about 315 feet from home base it makes for a popular and famous target. Hitting homeruns anywhere else just doesn't generate the same kind of excitement for the fans and players, and getting over the wall in exchange for bonus highlight reel footage and status is a goal that has become exceedingly valued. It's kind of like a fully mature, totally understood and accepted incentive model. Completely sustainable and where all stakeholders involved benefit from the process.

How many of you know what voc stands for? Now, how many of you are familiar with the term WASTE?! How about INNOVATION?! It may not seem like it but these two words need each other more now than ever before. To help us get a handle on the SPI fundamentals let's re-visit back to Part 1 of this series with the popular environmental adage of our youth 'reduce, reuse, recycle'. The origins of this campaign were meant to prohibit waste generation but its catchy rhyme and good intention hasn't achieved much, at least in the world of paint.

We can't escape it because we need it. I want you to lather, rinse and repeat this phrase.

It's of no coincidence that the first 'R' is reduce and the last is recycle. I mean it's obvious, if you don't buy it, you don't use it and if you don't use it then you can't waste it. But the truth is we like to buy and we habitually waste. But consumers are not fully responsible because generally we need to consume an exact amount of something (like shampoo and conditioner) in order to get the job done. This is also the case for traditional paint systems and the wastes they create.

We can't escape it because we need it. One more time.

North Americans purchase approximately 764 Billion gallons of paint annually. Of what can be accurately surveyed the waste yield is as high as 16%, equivalent upwards of 488 Billion litres excluding containers. How are we handling this very real problem? We're not!

By definition, an effectively operating recovery/recycling model relies on access to and control over waste. But managing the flow of consumer paint wastes has proven to be costly, complex and tenuous using the reuse and recycle programs. Because this system is reactionary and functions within the paradoxical rule of waste creation to be successful, it cannot stem habitual waste at the source. This leaves unresolved the challenge of how to avoid waste while maintaining the required consumption.

We can't escape it because we need it.

Earlier I asked what voc stands for: Volatile Organic Compound. For those of you who got it right, do you know what it means? In the last twenty years, governments have outlined a limit for interior architectural paints in the amount of 100grams per litre. Researchers have concluded that voc's [a very

prolonged evaporating vapor] are not acutely toxic because the concentrations are so low and easily dissipate into the outdoor air over time, leaving experts unable to trace and record anything of tangible harm. That bit of technical data has taken a generation for a full industry and very partial consumer digest, and who can be surprised? People aren't hip to invisible vapor that may or may not send them into a coughing fit fifty years from now. Rather, we are more of an impulsive bunch, worried about what's right in front of our faces and that needs of and disposes of as easily as it is for me to type the word 'waste'.

We CAN escape it! We WILL escape it because we don't need it.

I draw the distinction between waste and voc not because I find fault with the control of these chemicals [I agree we must limit as per government regulation] but because waste is more important. It is an ever-increasing problem and nobody is talking about it. Mainstream "green" paint articles usually have a brief, vague mention of voc's but this is benign of real purpose and substance compared to more exciting green technologies. There is a paradigm shift happening today though in paint and through its incentive will raise the profile of an industry lethargic to the sustainability needs of all paint's stakeholders.

We find it using the model I re-insert here from Part 1 -

A fully optimized, sustainable and quantifiable, one-coat paint that never requires a primer or second coat to achieve a finished result over any surface. This delivers labor, time and material cost savings of at least 66% to the developer/builder and painter/homeowner, plus prevents 66% of life-cycle wastes in raw material extraction, embodied carbon, transport, energy, production and consumer use. This rewards all stakeholders with an effortless, tangible, built in eco-incentive.

This idea and sense of duty in being responsible for the wastes generated before and during production isn't new. Governments have what it calls the Extended Producers Responsibility System (EPRS). But it's only a recommendation, not strictly followed by "Big Paint" manufacturers. They are more concerned with trying to manage wastes from their paints after purchase by leveraging each and every transaction across North America; you might not know it but you are subsidizing a system that creates paint waste!

"Big Paint" manufacturers have quietly established a consumer financed initiative & strategy with a built-in pricing structure that accommodates their costs of running the recapture and recycling systems that attempt to reclaim the wastes they generate. What's more, this doesn't include any fees when having to drive your waste to the dump. I know those are a lot of 'R's' but unfortunately, they're missing the only one that counts: REDUCE!

Paint waste is the last frontier in the Green Built Environment conversation because it's tangible, visual, abundant and out of control through too many inconsistent and questionable efficacies in the recapture and recycle systems. Innovation through the SPI model is the tactic that tames this leading edge. We must take back control of how we consume paint and challenge all stakeholders towards this model.

I'm hoping they will rise to it because with the right incentive, paint waste – the real "green monster", is not that high and not too far to get over.

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Sustainable Paint Indexing for the future Green Built Environment – Part 4

By: Tony F. Margani – EVP Science/Environment for EVOpaint™

What is the business case for sustainability?

When I am the lead car in the left hand lane and the advanced green arrow turns I move like lightning because I know that the advance is only going to last so long and I know that my sluggishness might make it or break it for the vehicles behind me. Maybe you feel the same? And maybe you feel there are those that act like the arrow is just for them.

In this 4part series, I have made the case for a new standard in paint for the developer/builder and painter/ homeowner and retailers [stakeholders] by employing the concepts of incentive, self-interest and sustainability as a single mutually beneficial economic system:

Definition: A balanced incentive in both economy and environment, linked to the *key* ability to *quantify* the 'green' aspects of a paint product.

This is expressed by the first scenario above where doing what's best for you and for the group is the only way forward. The second, those that soak in all the glorious advantages and conveniences of the arrow for themselves [by habit or intentionally to maximize their benefits at the expense of minimizing everybody else's] will only keep ahead of the game for so long before they start to realize that in order to succeed in the new sustainable economy they need all the cars [stakeholders] lined up in behind to make the turn. To make the change of direction needed.

I like to consider myself a capitalist because I am in business to make money, but I believe we need to move beyond blind profits and convoluted marketing to make incentive a permanent built-in advantage for the products we manufacture and sell. This is a far cry from the consumer financed initiatives that fund waste creation for "Big Paint" [Part 3]. Achieving any real measure of success for sustainability in the new construction and maintenance markets depends on broad acceptance using practical incentives; and the only way I know how to accomplish this is through radical technology innovation.

Advancing our Green Built Environment has to become more than a few of us quickly manoeuvring to accommodate everybody else, it has to become an orchestrated affair where each vehicle in the turning lane thinks, feels and acts like they're the lead car. We need everybody wanting to BE the lead car and with the incentive through the SPI model I propose, all stakeholders can redefine how we consume paint and prevent the wastes it generates with real measurable benefits for all. YES! Self- interest can be good!

For a final time let's re-visit the SPI model from Part 1 -

A fully optimized, sustainable and quantifiable, one-coat paint that never requires a primer or second coat to achieve a finished result over any surface. This delivers labor, time and material cost savings of at least 66% to the developer/builder and painter/homeowner, plus prevents 66% of life-cycle wastes in raw material extraction, embodied carbon, transport, energy, production and consumer use. This rewards all stakeholders with an effortless, tangible, built in eco-incentive.

When this concept is fully digested through the new construction and maintenance markets plus the associations that voice for retailers, painters/homeowners there is no going back to traditional paint

systems as the incentives are too great for everybody involved. It remains accurate that only when all stakeholders benefit that the Green Built Environment will sky rocket.

The global conversation on the health of every industry sector has a specific dialogue that is being refined by how best to achieve their respective sustainability index. I believe we have reached ours for the paint industry and its largest client – the new construction and maintenance markets. I believe we have now finally moved beyond the dialogue by allowing innovation to steer us. The SPI model volunteers a reduction of 66% in production output simplifying resource consumption and manufacturing. It also adapts to everything that all stakeholders have ever known about paint without any new education or compromise to the desired end result. Finally, it empowers all of us beyond the reality of unknowingly supporting traditional outdated paint systems that generate uncontrollable wastes and then make us pay for it. Literally. The relentless incentives in the SPI model will continue to welcome more of us into the conversation on how to be smarter about resource consumption as it affects our paint buying habits.

I believe we can strike that balance, shifting the incentive from the pockets of the manufacturer to all stakeholders. I welcome you now armed with this knowledge, to re-examine your relationship with paint and assess if the communities you're interested in, work and live in align with today's new standard.