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TOPIC – PVCs: Future of the environment

Dr Patrick Moore was a co-founder of Greenpeace and a full-time green activist for 15 years. These days, though, he believes that the environmental movement has adopted extreme agendas that abandoned science and logic in favour of emotion and sensationalism.

Transcript

Michael Duffy: Patrick Moore is a founding member of Greenpeace and he later left the organisation after becoming disenchanted with the way it was changing. He now runs an environmental consultancy called Greenspirit Strategies. Dr Moore has an honours degree in forest biology and a PhD in ecology from the University of British Columbia, and he's currently visiting Australia on a trip paid for by the Vinyl Council. They represent manufacturers who are concerned about growing criticism by environmentalists of the use of PVC products in buildings. Patrick Moore, welcome to the program.

Patrick Moore: Thank you, Michael. It's nice to be back in Australia, my second favourite country after my home of Canada.

Michael Duffy: What a nice thing to say. Let's plunge into the issue of PVC and maybe talk about the environmental movement more generally later on. Can you just take us through some of basic science? What is PVC?

Patrick Moore: PVC is a unique plastic in that it is not just a hydrocarbon like polyethylene and most of the others. PVC is polyvinylchloride. The chlorine comes from salt, so PVC is basically half plastic and half salt. The salt comes from sodium chloride, normal table salt, and is combined with the hydrocarbon, and therefore it has some very unique properties. One of the most important of which is that it doesn't burn like other plastics. If you...PVC will burn in a fire but if you remove the source of ignition, PVC goes out, which is why, for example, it is mandatory to use it for insulation on all wiring an in all conduit through which wires and electricity pass.

Michael Duffy: And what are some of its other uses?

Patrick Moore: PVC is the most versatile of all the plastics because it can be in both rigid form, as in pipes for which it is most widely used now (the largest use of PVC is in pipes for water and sawer and many other applications) but it can also be made flexible by adding a substance called phthalates which is a very benign chemical that is capable of making it so that it is very, very flexible, and the more phthalates you add the more flexible it becomes, and therefore it can be used for everything from rubber boots to children's toys to clothing items where you want flexibility. Indeed, in building products, PVC is by far the most common plastic used in building. It can be used for roofing, siding, flooring, wall covering, decks, fences and many other applications, both interior and exterior in homes and buildings.

Michael Duffy: So, from your description of it, it's sort of interesting that it has been opposed by the environmental movement. Can you tell us something about that? What don't they like about it, or what do they say about it?

Patrick Moore: What they say about it is two main things. First they say that dioxin is produced in its manufacture, and it is true that a very miniscule amount of dioxin is produced in the factories where PVC is manufactured, virtually none of which escapes into the environment...a very, very small amount, and if you look at the figures, not just for vinyl or PVC but also for the whole chemical industry, the amount of dioxin

produced in the chemical industry is miniscule. Most of the dioxin that is produced by human caused activities is from backyard burning, from wood burning fireplaces, from diesel trucks and cars, from oil fired power stations, from recycling steel, from cement manufacturing. Those are all much larger sources of dioxin than PVC manufacturing, to the point where the Environmental Protection Agency in the United States, which is the agency I'm most familiar with in terms of analysing these things, doesn't even have it on the radar screen, but because there is a tiny bit of dioxin associated with it, the activists attack it. The second thing they claim is that the phthalates which are added to soften plastic are dangerous, and here you have the typical chemical scare story where they're appealing to mothers to make them concerned about their babies, about their foetuses in the womb, as if there's going to be birth defects, cancer, mutations and everybody is going to die in heir sleep type of story, when in fact there is no medical evidence, there is no actual evidence of harm being caused by PVC. You can take, for example...as I mentioned, PVC is made from salt. Compare the two; salt is an essential nutrient, we have to have it to survive, but if you ate a cup of salt and washed it down with water, you would not survive the night, whereas you can take PVC and pulverise it into salt-sized granules...you can eat any number of cups of that. I mean, it has no nutrient value but it is not toxic, it is absolutely non-toxic. People will relate to the fact that your credit cards are made of PVC. That's why they're slightly flexible, so they don't crack if you bend them in your wallet. They have a small amount of phthalate in them. There's nothing toxic about your credit cards or any other of the many, many materials that you use every day that are made out of PVC. So it is basically a typical scare campaign using words like...Greenpeace calls PVC 'the poison plastic' and puts a skull and crossbones and all of that with it, and they call chlorine (which is part of PVC) 'the devil's element'. It's almost like a religious ritual type of thing, as if there's some kind of witchcraft involved when in fact PVC is one of the most cost effective, versatile, energy efficient and non-toxic materials we have in our whole society.

Michael Duffy: But despite that, this campaign, it's been running for a long time, hasn't it? Can you just tell me a little bit about that? And where has it had its successes?

Patrick Moore: Well, it actually hasn't had a lot of success in the overall scheme of things. The sales of PVC in terms of volume have steadily risen because it is such a cost effective and versatile material, but there's one really insidious aspect to this campaign aside from the campaign to convince people they should use PVC for building, and that is the campaign to get PVC out of healthcare institutions-hospitals and old folks homes et cetera. PVC is the most versatile plastic blood bags, intravenous tubing, the nets that they wear over their heads, the gloves that you use for antiseptic. One of the most interesting uses of PVC is in wall coverings. PVC is unique in that it is easy to put things in it; it absorbs other materials quite readily, and you can put antimicrobial compounds right into the PVC so that it acts as an antiseptic barrier in healthcare institutions. There's a strong movement, with groups called such things as Healthy Building Network and Healthcare Without Harm...that all sounds very nice but basically what these are are anti-PVC movements, and they are trying to get PVC out of healthcare institutions. All the substitutes for PVC are less effective and cost more money, therefore what this means is driving up healthcare costs for no actual value. You get absolutely no payoff for it. As a matter of fact, you are substituting with materials that are not as effective as PVC. PVC has been tested for 50 years for toxicity in all its applications and there's never been any evidence of harm to anybody, and yet this campaign has legs because it's based around terms like 'poison plastic' and 'devil's element' and, they say, from animals studies where you give high doses...Again, if you give high doses of salt to rats and mice, they will develop all kinds of diseases and malformations and things. If you give high doses of phthalates which are put into PVC you can also get abnormalities, but this is true of virtually any compound. ichael Duffy: But what about the building industry? There have been some successes there in certain areas, haven't there, in restricting its use?

Patrick Moore: Well, for example, the Green Building Council in Australia, for whatever reason, has continued its deselection of vinyl in its standard. In other words, if you're building a building and you want it to be labelled green, under the Green Building of Australia standards if you deselect or do not use vinyl you get extra points.

Michael Duffy: What would you be using instead, do you know?

Patrick Moore: It all depends on the application. For example, with pipe for water you would end up using copper or iron or concrete, all of which cost more and are less effective and are not as sanitary. So it's not a good choice for siding of a house which is common in the US. I don't know if it's so common here to use vinyl on the side of a house, but many houses in North America use it, and instead you'd use wood or plaster or some other substance. So generally there are substitutes. For window frames, if you didn't use vinyl you'd use aluminium or wood, neither of which are as good from an insulation point of view as vinyl.

Michael Duffy: So why are Greenpeace and their offshoots doing this then? It sounds, from what you've told us about the science of it, it sounds quite weird.

Patrick Moore: It's because it's a very effective political/fundraising campaign. In the United States the Green Building Council there has promulgated a green building standard called LEED-leading engineering and environmental design-that's being adopted across the country. The radicals inside LEED wanted to give a penalty for using PVC or to give points for rejecting PVC, whichever way. The Green Building Council struck a technical and scientific committee which worked for two years exhaustively; took 2800 submissions and came to the conclusion that there was no reason to discriminate against vinyl along with the other building materials. They basically said vinyl has its own impacts, just like wood and steel and concrete do, but there's nothing that stands out that would give you cause to discriminate against vinyl. And even though that has been tabled and is available on the web and everybody knows about it, including the people in the Green Building Council in Australia, they have chosen to ignore it and to keep their anti-PVC policy in this country, even though it has been rejected in most other places.

Michael Duffy: Patrick, moving away from PVC now; Greenpeace was a great idea when it started. I used to be a member myself many years ago. What went wrong?

Patrick Moore: Well, what went wrong is why I left in the mid-80s when the policy started to drift away from science and logic into these kind of zero-tolerance positions that I believe are based more on sensation and contrivance and on fundraising around scare tactics. A lot of the campaigns today are based on scare tactics, and all you have to do is look, for example, at the campaign against genetically modified crops and the whole 'Frankenstein food', 'terminator seed', 'suicide seed', 'killer tomato'...these are scare words that are attached to what is actually one of the most important advances to genetic science in history, which is simply taking a gene...for example, taking a gene from corn, the one that confers the yellow colour to corn which is beta-carotene, the precursor to vitamin A, and putting it in rice and creating the 'golden rice' which could eliminate blindness in half a million kids every year in Asia and Africa and could eliminate chronic vitamin A deficiency in over 200 million people in the rice eating countries, and yet Greenpeace's reaction was to say they would pull it out of the ground. They've done everything they can to discredit the science and the scientists who are humanitarians that invented this in the first place, they're not multinational Monsantos, although I'm not against Monsanto. I think they've done some very good things to add value for agriculture, for the citizens and for the farmers.

Michael Duffy: But Greenpeace itself is a multinational organisational now, isn't it? Could it survive without these sorts of high profile campaigns?

Patrick Moore: No, it couldn't, and I honestly believe that it's important to have watchdogs, it's important to have groups like Greenpeace that are independent, but they have morphed into a scare campaign. It all started for me when I was an international director, one of five. My fellow international directors had no science education. Most of them were political activists or sort of entrepreneur environmentalists, for want of a better word, and they decided that we should have a campaign...while I was there...we should start a campaign to ban chlorine worldwide. I said, 'You guys, chlorine is one of the elements in the periodic table. I don't think that's in our jurisdiction.' And they said, 'No, this is a good campaign. Chlorine is the devil's element, and it works really well for fundraising and media and everything.' I said, 'Just a minute, 75% of our medicines are based on chlorine chemistry, and adding chlorine to drinking water was the single biggest advance in the history of public health, and the best way to deliver that slightly chlorinated drinking water to the general public is in a PVC polyvinylchloride pipe. So give me a break. I cannot go along with this. You guys make a list of the chlorine compounds that you don't like and we'll look at them one by one

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like any regulatory agency would do, but you can't just condemn chlorine. We put it in swimming pools so that people don't get cholera and tetanus.' So anyways, I kind of went off the deep end, and that was the beginning of my having to leave the organisation that I helped found, and it distresses me greatly all through these years and continues to today, that I had no control over that. I was one of six international directors and there was nothing I could do about it, so I had to go. But, you know, for me it's been a good story because it has caused me to rethink a lot of things, including nuclear energy which I now support very strongly as a way to get off fossil fuels, coal in particular, and to reduce greenhouse gas emissions. And it's caused me and my colleagues in Greenspirit Strategies to develop an alternative environmental policy framework or platform which we believe is far more based on science and logic than the scare tactic approach that has now become common within the environmental movement, Greenpeace in particular.

Michael Duffy: Well, I'll give out your website address in a moment so people can look that up. But for now, thanks very much, Patrick, for coming on the show.

Patrick Moore: Thank you very much, Michael.

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