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Hidden gotcha in artificial turf installations

With heightened awareness around the country about the health effects of PFAS, calculations for what artificial turf installations actually cost over their full life-time may send a shock through the artificial turf industry

(https://www.ehn.org/u/petemyers1) Pete Myers (https://www.ehn.org/u/petemyers1)

When school systems, universities and colleges, or local governments choose to install artificial turf fields, they seem all bright, shiny green and clean. How many of those buyers pay attention to the endgame—the disposing of many tons of hazardous waste?

Intrepid reporting by Sharon Lerner (http://bit.ly/TurfPFAS) at *The Intercept,* in collaboration with scientists at the Ecology Center (Ann Arbor), revealed that the so-called 'forever chemicals'—PFAS (perfluoroalkyl and polyfluoroalkyl substances)—are used in the production of artificial turf. They help in the manufacture of the artificial grass blades, which must be forced through an extruder to achieve the right size and shape. That process goes more smoothly when PFAS chemicals are added to the plastic before the blades are extruded.

'Forever' doesn't mean they stay in the 'grass' blades forever. It means they take a very long time to degrade in the environment. And, rather than staying in the blades, they travel, by leaching and by volatilizing. With surface temperatures of artificial turf on hot, sunny days reaching well above 120 deg F, this traveling shouldn't be a surprise. How much PFAS kids breath in while playing soccer hasn't been quantified.

But the chemicals also take a slow form of transport: Via dump truck to rubbish piles and disposal sites. That's because artificial turf fields used in sports need to be replaced after somewhere between five and 10 years of use. Rip out the old. Lay in the new, again shiny green.

Are PFAS threats to human health? Dr. Linda Birnbaum, just before she retired as the Director of the National Institute of Environmental Health Sciences, concluded that the 'safe' level of PFOA (http://bit.ly/01pptBirnbaum)would need to be lowered to 0.1 parts per trillion, 700 times lower than the current EPA standard. And anyone who wants to learn more about this family of chemicals and their impacts on human and livestock health should go see Mark Ruffalo's new movie, Dark Waters (http://bit.ly/WikiDarkWaters), a dark story of how DuPont purposefully hid the chemical's dangers for decades. The movie opens Friday, 6 December, in Charlottesville and theaters around the country.

Industry websites say the used turf can be deposited at any landfill (for example, here (http://bit.ly/ArtificialDisposal)). But as concerns about PFAS mount, that's very likely to change.

This issue became personal when I learned that my wonderful County Supervisor, Ann Mallek (White Hall District, Albemarle County, Virginia), had learned of illegal dumping of used turf from the University of Virginia.

A neighbor of mine had called her, puzzled by a series of big dump trucks traveling on [illegible] up a nearby mountain. The neighbor told Mallek that the unusual amount of traffic had so surprised him that he had finally stopped one of the drivers and chatted him up.

The driver told him he was carrying used turf from the university but that it was OK, Virginia's Department of Environmental Quality had approved it. This seemed unusual to Ann; she wasn't aware of any legal rubbish dumps up that particular mountain. So she called the university. Her contact there reassured her that DEQ had approved. Then she called DEQ, who knew nothing about it. It was an illegal rubbish dump set up by an enterprising landowner to receive the turf.

After formal notice of violation from Albemarle County, the landowner had the turf hauled away, but a couple of months later it was discovered again, by accident, having merely been shifted to another site on the mountain beside a stream. The County had to get involved again and this time the turf was finally taken to a landfill capable of handling hazardous waste.

All 199 tons of it. From just two soccer fields.

The choice of a hazardous waste disposal site at the time was serendipitous ... PFAS in artificial turf hadn't yet become an issue. And the dramatic nationwide rise in toxicity concerns about the compounds hadn't become a local issue.

In her article cited above, Sharon Lerner tells the story of scientists finding one specific PFAS, PFOS, both in abandoned turf and in stream water adjacent to it near Franklin, Massachusetts. Town officials told her they hadn't known about hazardous chemicals in artificial turf.

We can't allow officials to claim ignorance any longer. Candy Woodall at the *York Daily Record* in Pennsylvania offers one example of the work that needs to be done: The paper did an excellent job exposing the unregulated turf industry (https://www.ydr.com/in-depth/news/2019/11/18/old-artificial-turf-fields-pose-huge-waste-problem-environmental-concerns-across-nation/2314353001/), investigating the burdens the industry imposes on the environment and neighbors thanks to the current lack of rules or oversight.

With heightened awareness around the country about the health effects of PFAS, [illegible] for what artificial turf installations actually cost over their full life-time, including disposal in facilities capable of managing hazardous chemicals, may send a shock through the artificial turf industry and the many schools and sports facilities who want more shiny green stuff.

Pete Myers is founder and chief scientist of Environmental Health Sciences, which publishes Environmental Health News.

artificial grass (https://www.ehn.org/tag/artificial-grass)

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plastic grass (https://www.ehn.org/tag/plastic-grass)

toxics (https://www.ehn.org/tag/toxics)

William Ruckelshaus, the first Administrator of the U.S. Environmental Protection Agency (EPA), passed away this year at age 87. (Credit: US EPA)

(https://www.ehn.org/2019-environmental-deaths-2641647189.html)

21 December

Originals

Remembering those lost this year who left their mark on our planet (https://www.ehn.org/2019-environmental-deaths-2641647189.html)

A look back at those who passed away in 2019 that—for better or worse—impacted our planet.

Keep reading...

(https://metro.co.uk/2019/12/31/global-warming-make-weather-britain-even-colder-scientists-warn-11981031/)

metro.co.uk

3h

Climate (https://www.ehn.org/climate)

Britain could be set to become even colder due to climate change and global warming (https://metro.co.uk/2019/12/31/global-warming-make-weather-britain-even-colder-scientists-warn-11981031/)

It's feared that climate change will make hot countries totally uninhabitable. But global warming could end up having the ironic effect of making the weather in Britain and north-western Europe even colder.

Read the Full Article on metro.co.uk (https://metro.co.uk/2019/12/31/global-warming-make-weather-britain-even-colder-scientists-warn-11981031/)

(https://www.ehn.org/the-minds-behind-louisvilles-riverfront-revival-2642227703.html)

Waterfront Park in Louisville, Kentucky, during the July Forecastle Music Festival. (Credit: Ryan Van Velzer/WFPL)

Ryan Van Velzer (https://www.ehn.org/u/ryanvanvelzer) 30 December Originals

The minds behind Louisville's riverfront revival (https://www.ehn.org/the-minds-behind-louisvilles-riverfront-revival-2642227703.html)

In Louisville, Kentucky, the Ohio River has something of an image problem.

Keep reading...

(https://www.ehn.org/climate-change-2020-2641673784.html)

Peter Dykstra (https://www.ehn.org/u/peterdykstra) 27 December

Originals

For 2020: Not a resolution, but a plea (https://www.ehn.org/climate-change-2020-2641673784.html)

As the year comes to a close, here is my wish list and suggestions for all of us in the coming year who cover the environment.

Keep reading...

(https://www.latimes.com/california/story/2019-12-29/malibu-rat-poison-wildlife-ordinance)

7h

Toxics (https://www.ehn.org/toxics)

Malibu wants to ban all pesticides. The state of California says that's against the law (https://www.latimes.com/california/story/2019-12-29/malibu-rat-poison-wildlife-ordinance)

"We passed a ban not just on rodenticides but on all pesticides," said Malibu Mayor Pro Tem Mikke Pierson. "Of course, the Department of Pesticide Regulation said absolutely we can't do it."

Read the Full Article on www.latimes.com

(https://www.latimes.com/california/story/2019-12-29/malibu-rat-poison-wildlife-ordinance)

(https://www.washingtonpost.com/world/asia_pacific/chinese-metal-mines-feed-the-global-demand-for-gadgets-theyre-also-poisoning-chinas-poorest-regions/2019/12/29/c90eac2c-0bcb-11ea-8054-289aef6e38a3_story.html?arc404=true)

30 December

Children

Around China's metal mines, villages struggle with a toxic legacy (https://www.washingtonpost.com/world/asia_pacific/chinese-metal-mines-feed-the-global-demand-for-gadgets-theyre-also-poisoning-chinas-poorest-regions/2019/12/29/c90eac2c-0bcb-11ea-8054-289aef6e38a3_story.html?arc404=true)

Toxic dust and runoff bring soaring levels of dangerous metals such as cadmium and lead.

Read the Full Article on www.washingtonpost.com

(https://www.washingtonpost.com/world/asia_pacific/chinese-metal-mines-feed-the-global-demand-for-gadgets-theyre-also-poisoning-chinas-poorest-regions/2019/12/29/c90eac2c-0bcb-11ea-8054-289aef6e38a3_story.html?arc404=true)

(https://www.eenews.net/stories/1061923023)

30 December

Biodiversity

Endangered species: Interior wordsmiths 'habitat' with eye on regulatory reach (https://www.eenews.net/stories/1061923023)

The Trump Interior Department has advanced its effort to redefine "habitat" under the Endangered Species Act, part of a second wave of changes to the bedrock conservation law.

Read the Full Article on www.eenews.net

(https://www.eenews.net/stories/1061923023)

(https://www.eenews.net/stories/1061888837)

27 December

Justice (https://www.ehn.org/justice)

Court fights abound in wake of Trump's regulatory rollbacks (https://www.eenews.net/stories/1061888837)

It's been a whirlwind year in environmental law, and courtroom action is expected to accelerate in 2020 as President Trump closes out his term. Here are some of the past year's biggest developments.

Read the Full Article on www.eenews.net

(https://www.eenews.net/stories/1061888837)

(https://www.bbc.com/news/science-environment-50631059)
www.bbc.com
27 December

Toxics (https://www.ehn.org/toxics)

The big science and environment stories of 2019 (https://www.bbc.com/news/science-environment-50631059)

We look back at some of the major stories of the year in science and the environment.

Read the Full Article on www.bbc.com (https://www.bbc.com/news/science-environment-50631059)