CORPOPRATE NEWS & EVENTS



Volume 1, Issue 4

WWW.APAICORP.COM



"When the last tree is cut, the last fish is caught, and the last river is polluted; when to breathe the air is sickening, one will realize, too late, that you can't eat money."

- Alanis Obomsawin

01/09

Inside this Issu<mark>e</mark>

Understanding the Connection between AP&I's Corporate Divisions

Independent Testing Report Summaries

Industry Outlook 2025: Legislative Support

From the Chairman's Desk



Understanding the Connection Between AP&I's Corporate Divisions

Water: Earth's most precious resource

According to the United Nations World Water Development Report 2025, the most recent global estimates from 2021 show the agriculture sector dominates freshwater withdrawals, followed by industry and domestic (or municipal) use, respectively. In fact, "sector-specific freshwater withdrawals vary considerably as a function of a country's level of economic development. Higher-income countries use more water for industry, whereas lower-income countries use 90% (or more) of their water for agricultural irrigation."



Furthermore, the United Nations also report that "twenty-five countries – home to one-quarter of the world's population – face 'extremely high' water stress every year. Approximately 4 billion people, or half the world's population, experience severe water scarcity for at least part of the year. Climate change is increasing seasonal variability in, and uncertainty about, water availability in most regions. Pollution, land and ecosystem degradation, and natural hazards can further compromise the availability of water resources."

AP&I Corp., through its many divisions, is committed to helping solve a worldwide environmental crisis with proven, sustainable technologies for the next generation. By repurposing destructive waste into eco-friendly commodities, we meet our mission to create a positive global impact for the circular economy, thus contributing to the protection of our planet's most finite resource- water. In doing so, we address more than water conservation but also the concerns of rising populations and urbanization, such as mounting solid waste, stormwater management, groundwater recharge, water conservation, land reclamation, carbon sequestration and food security. While this claim may sound exaggerated or far-fetched, it is surely not the case, and we have the supporting data to prove it.

It is well-documented that excess nitrogen and phosphorus runoff from fertilizers, sewage, and industrial and agriculture operations can adversely affect plant and animal growth, as well as human development. Thus, nutrient pollution within major watersheds has become an increasing concern of government agencies, public utilities, and private industries. High levels of nutrients in surface waters stimulate nuisance growths of plants and algae in both streams and reservoirs. To some degree, every





state in the nation faces problems associated with nutrient overenrichment caused primarily by nitrogen and phosphorus in their waters. In many cases, those problems emanate from activities within a state, as well as activities in upstream states.

Nitrogen in its nitrate form and Phosphorous in its orthophosphorous form are readily dissolved in water and move with the water wherever it goes, thus causing the greatest immediate impact on groundwater, aquifers and surface water quality. The highest profile examples of nutrient impairment on the national level are the Gulf of Mexico and the Chesapeake Bay. In the Gulf, hypoxia (the Dead Zone) has negatively impacted aquatic life and, subsequently the livelihood of those communities relying on the natural resources of the Gulf. In the Chesapeake Bay, similar

impacts on wildlife and the seafood industry have been felt.

The Clean Water Act was created to restore, maintain and protect the integrity of our nation's water body supplies. The U.S. Environmental Protection Agency (EPA) requires states to develop and implement Total Maximum Daily Loads (TMDLs) for impaired waters and, in some cases, numeric nutrient criteria (quantitative limits on nitrogen and phosphorus) for water bodies, especially where nutrients are causing problems like algal blooms or hypoxia, as the basis for water quality improvement. As TMDLs and nutrient criteria become more stringent, many wastewater treatment plants–especially older or smaller ones–are not currently equipped to meet the low nitrogen and phosphorus discharge limits that may be required. In fact, achieving those low levels often requires

upgrading facilities with advanced nutrient removal technologies, which can be costly and technically demanding.

When K.B. Industries (KBI) was formed in 2001, its primary mission was to create a high tonnage market using recycled scrap tire granules for infrastructure and paving. It was K.B. Industries that pioneered the first flexible porous paving, worldwide. KBI's mission has been realized through much hard work, trial and error and extensive independent third-party testing. Today, K.B. Industries has become a pivotal part of the AP&I Corp. family under the Scrap Tire Construction Products (STCP[™]) Division. This natural evolution created a necessity for vertical integration.







The Next Stage of Evolution

Backed by extensive, third-party testing and twenty-three years of verified results, AP&I Corp.'s wholly owned subsidiary, K.B. Industries Inc. crafted a proprietary system to create high-tonnage takeout of scrap tire granules as opposed to incinerating it. These technological advances birthed KBI Flexi®-Pave and Scrap Tire Recycled Products™, making them the most cost-effective scrap tire granules to emerge from the tire recycling industry, thus creating the need for vertical integration of the NGTR facilities to feed the supply chain while maintaining quality control. NGTR Inc. is dedicated to improving the lives of the residents in the communities in which it serves through its industry-leading proprietary products that provide a wide range of benefits and solutions, enhancing economic and community development efforts.





NGTR Inc. benefits from access to a wealth of experience in sustainable technologies, financial stability, and a proven track record in delivering large-scale environmental projects. K.B. Industries Inc. has leveraged this foundation to develop cutting-edge products like KBI Flexi[®]-Pave and STCP[™], made from recycled tires, which have become integral to green building and infrastructure projects.

The division has also established strategic partnerships with public and private entities to support its growth. This strategy alignment with AP&I Corp.'s overall vision will enable NGTR Inc. to scale rapidly and position itself as a leader in scrap tire recycling and sustainable infrastructure solutions.







The Connection to Agriculture

Nitrogen is a crucial nutrient that helps plants and crops grow, but high concentrations are harmful to people and nature. Pure, clean water is vital to human health and to natural ecosystems. Excess nitrogen from agricultural sources is one of the main causes of water pollution. Nitrates and organic nitrogen compounds from fertilizer and manure enter groundwater through leaching and reach surface water through runoff from agricultural fields.





A high level of nitrate makes water unsuitable as drinking water. While in rivers, lakes and marine waters, nitrogen and other nutrients, in particular phosphorus, stimulate the growth of algae. At moderate levels, algae serve as food for aquatic organisms, including fish. However, excessive nutrient concentration in water systems will cause algae to grow excessively. This affects the natural ecosystem and can lead to depletion of the oxygen in the water. This phenomenon, known as eutrophication, has negative consequences for biodiversity, fisheries and recreational activities.

U.S. Corn Belt croplands with subsurface tile drainage are major sources of nitrogen and phosphorus pollution of surface water, and these nutrients drive water quality degradation and eutrophication of downstream freshwater and coastal marine ecosystems. Nitrate is a common contaminant of surface water and groundwater, and it can cause health problems in infants and animals as well as eutrophication of water bodies.





The World Health Organization and the United States Environmental Protection Agency (US EPA) have established a maximum contaminant level for nitrate of 10 mg/L as NO₃ ⁻–N in drinking water, and many studies have shown that agricultural activities are a significant source of surface and ground water pollution due to long-term and excessive fertilizer use.

Non-point source pollution caused by nitrogen from agricultural ecosystems is a serious threat to water environments and has received increasing attention regionally and globally Agricultural activities contributed to approximately 75% of non-point pollution, which accounted for approximately two-thirds of the total pollution, in the US. Agriculture is also a primary source of river and groundwater pollution in rural areas of the UK and the EU where the total nitrogen provided by agricultural non-point sources reached approximately 60% of the total water pollution.





Several studies have shown that nitrate-nitrogen loss through subsurface drainage is a major source of pollution for surface and groundwater bodies, thus threatening the water environment. Nitrate is both soluble and mobile, it is prone to leaching through soil with infiltrating water, and it can persist in shallow groundwater for years. Moreover, the hydrogeological settings, seasonal trends and anthropogenic activities are major factors that influence the mobility and accumulation of nitrates.



Under rainfall or irrigation conditions, high levels of soluble nitrates leak through soil and into groundwater and then drain away with the groundwater flow. Therefore, nitrate leakage can cause nitrate pollution of groundwater; subsequently, the contaminated groundwater is likely to drain into rivers, resulting in further environmental damage to surface water.

Eutrophication is a key factor causing degradation of water quality, which restricts its use. Degradation of soil and water from agriculture occur due to residues of used chemicals pesticides, emission of ammonium, methane or sulphide from livestock production, and livestock manures.

While nitrogen and phosphorus leaching from arable fields to groundwater and surface water caused by poor timing of application, or because of higher amounts of these nutrients being applied in natural and mineral fertilizers compared to the plant requirements. While both phosphorus and



nitrogen play a pivotal role in eutrophication, the main cause of eutrophication in fresh water is phosphorus yet nitrogen is the primary cause in marine water.



Of these two elements, 81% of agricultural nitrogen pollution of aquatic systems comes from livestock production. Poorly drained agricultural soils with subsurface tile drainage are often the main nutrient sources to downstream waters. When dissolved phosphorus is readily transported from the soil as run-off into waterways.

Water pollution affects plants and organisms living in these bodies of

damaging not only to individual species and populations, but also to the natural biological communities. Because over 40% of America's rivers are too polluted for fishing, swimming, or aquatic life, more than 60% of US estuaries and bays are either moderately or severely degraded from eutrophication, and in any given year, about 25% of beaches in the US are under advisories or are closed at least one time because of water pollution.





Independent Testing Report Summary



In 2010, K.B. Industries, Inc. (KBI) initiated a one-year water quality study in Dunedin, Florida. The objective of the study was to determine the reduction impact on dissolved nitrates and phosphorus concentrations



resulting from the percolation of water through KBI Flexi®-Pave. Passive Treatment Technologies (PTT), such as KBI Flexi®-Pave, provide a cost-effective solution for the removal of nutrients from storm water, while saving energy, to reduce nutrient pollution.

The study's setup, installation, testing and reporting were conducted by Mallard, Inc.- a highly respected and licensed Civil Engineering and Environmental Consulting Firm with locations in Florida and Georgia. According to Mallard's Final Report, "Throughout 2010, Mallard collected water samples on a quarterly basis from the water capture systems. Mallard poured both municipal tap water and known concentrations of nitrate and total phosphorous standard solutions onto the Flexi-Pave surface above each water-capture system and allowed it to percolate through into the system. The water samples collected were tested for nitrates by EPA Method 353.2 and total phosphorous by EPA Method 365.1. The samples were tested by a state-certified analytical laboratory. The results of these samples were used to determine what the sub-base materials contribute to the phosphorous and nitrate concentrations."

The test results would indicate the effect of each variation of the KBI Flexi[®]-Pave installation on soluble nitrates and phosphorus prior to reaching the groundwater. The results were reported as follows: An impressive 83% reduction in dissolved nitrates and a staggering 88% reduction in dissolved phosphorus were observed for the standard installation of the KBI Flexi[®]-Pave. Indeed, K. B. Industries remains well positioned at the forefront of sustainable solutions and is the **only** pervious paving solution in the world that has been **proven** to significantly reduce soluble Nitrates (N) and Phosphorus (P).



Porosity Rate: ~3,000 gal per hour per sq ft

Furthermore, more than two decades after application, KBI Flexi®-Pave continues to perform, demonstrating consistent passive nutrient removal as stormwater traverses through the flexible dynamic pore space within its matrix before it reaches open water body supplies. These facts have elevated KBI Flexi®-Pave's acceptance within the Engineering community and push the envelope for sustainable practices and technologies.

Industry Outlook Legislative Support

In June 2023, Connecticut Governor Ned Lamont signed in law an EPR (Extended Producer Responsibility) for tires bill (HB 6486) requiring tire manufacturers to finance, operate, and report on the post-consumer management of tires they sell into the marketplace. The State of Connecticut became the first state in the Union to mandate such legislation, which became effective January 2024, and we may begin to see other states follow in similar fashion as legislators expect a decline in illegal dumping, boosted tire retreading and recycling, and ultimate accountability and saving of public funds.



In fact, in 2024, 25 states followed suit and considered legislation directly affecting scrap tires. Some notable proposals include:

- Colorado converted its waste tire program into a state-owned enterprise.
- Idaho proposed the creation of a Waste Tire Recycling Fund for cleanup and recycling subsidies.
- South Carolina and Virginia introduced regulations for waste tire haulers and subsidies for hauling costs.
- New Jersey required the Department of Environmental Protection (DEP) to identify and remediate illegal waste tire sites.
- Arizona and Massachusetts directed municipalities to establish tire recycling programs.
- Connecticut introduced modifications to the state's EPR for tires law adopted in 2023.
- Hawaii proposed to establish zero waste policy and consider EPR policies to achieve goals.
- Massachusetts commissioned to study and report on the need for an EPR framework for various products.
- Vermont and Virginia proposed to require EPR for tires.

Internationally, the Canadian Environmental Protection Act (CEPA) is tasked with regulating pollution prevention and ensuring the safe disposal of hazardous materials from end-of-life vehicles, including tires. Some provinces maintain Extended Producer Responsibility (EPR) programs for tire recycling, though there is no nationwide EPR program to date.

The United Nations Environment Programme (UNEP) emphasizes sustainable waste management, including scrap tire recycling, as part of its broader circular economy initiatives. While the UN does not have a specific global mandate solely for scrap tire recycling, it promotes policies that encourage resource efficiency, waste reduction, and responsible disposal of end-of-life tires.

The Global Waste Management Outlook 2024 highlights the importance of reducing landfill waste and increasing recycling efforts to mitigate environmental harm. Many countries align with UN recommendations by implementing Extended Producer Responsibility (EPR) programs, which require manufacturers to take responsibility for tire disposal and recycling. These developments show a mounting pressure to solve a growing concern for scrap tire waste.





Legislative Support continued...

The United Nations considers water conservation a critical global priority, emphasizing its role in sustainable development, climate resilience, and human rights. The UN World Water Development Report 2024 highlights that safe drinking water and sanitation are fundamental human rights, and sustainable water management can promote peace and prosperity.

The UN System-wide Strategy for Water and Sanitation, launched in 2024, aims to accelerate progress on water-related goals by uniting efforts across UN agencies. Additionally, Sustainable Development Goal (SDG) 6 focuses on ensuring the availability and sustainable management of water and sanitation for all.

The United States prioritizes water conservation as a key component of environmental sustainability, public health, and national security. During the Biden-Harris Administration, the United States committed \$49 billion to global and domestic water security efforts, focusing on climate-resilient water infrastructure, watershed management, and drought resilience. However, challenges remained. While the U.S. Environmental Protection Agency (EPA) enforces the Safe Drinking Water Act (SDWA) to regulate contaminants and ensure clean drinking water, nearly 70,000 domestic water bodies fail to meet water quality standards. These challenges laid the groundwork for new legislation.

According to the United States Department of the Interior, on March 3, 2025, "President Donald J. Trump called on Congress to send him a bill that fully and permanently funded the Land and Water Conservation Fund and restored our National Parks. The President noted that it would be historic for America's beautiful public lands when he signed such a bill into law." On April 9, 2025, President Trump signed what has been dubbed "the most historic conservation funding legislation in U.S. History."

In summary, the combination of these efforts provide a global framework and network for AP&I's wholly owned subsidiaries, as they are ultimately connected by nature's ultimate driving force- water.

From the Chairman's Desk



Kevin Bagnall, CEO & Chairman Atlantic Power & Infrastructure, Corp.

Over the last two-plus decades, we have never deviated from the message that "water is our next oil." By creating high tonnage consumption market and an endproduct that connects us to other water-based industries we've created the ultimate solution to harmonize waste management, water conservation, agriculture, forestry, stormwater management, and infrastructure with increased urbanization and population density.

Water indeed connects all AP&I's sustainable technologies because our mission is focused on next generation infrastructure and the circular economy. By maintaining a genuine, keen focus on what is most precious to us, we endeavor to preserve that which will ultimately be placed at the feet of future generations. So, for my children- for yours- we will persevere.



