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EBJ 2024 Environmental Industry Outlook

Environmental Business International Inc.

US ENVIRONMENTAL INDUSTRY OUTLOOK

Environmental industry growth hit near 2023, and continues at a strong clip in 2024. The questions on the mind of most strategists are: How long it will last, and will recession, interest rates, energy prices, another unforseen conflict or global crisis, climate or the election trigger the inevitable next cycle?

The chart depicting annual growth rates since the turn of the century shows such cycles and periods of time where environmental consulting & engineering (C&E) growth exceeded economic growth and the growth of all 14 segments of the environmental industry by a considerable margin. High prices and strong investment in oil & gas development, strong trends in corporate earnings and share prices, accelerated property development spurred by high economic growth and attractive interest rates in the early 2000s was accompanied by funding momentum for federal programs, leading to one of the best growth stretches for C&E firms.

Today's market indicates a similar run, but under different circumstances. Federal funding yes, and wider spread more diversified programs based on infrastructure and energy, but not quite the same momentum behind property and resource extraction & production markets. However all of these markets do have legs in 2024, in addition to energy transition and climate resilience markets that have emerged in the 2020s.

Traditional environmental markets of waste management, water infrastructure, pollution control and protection of natural resources remain consistently supportive drivers mostly woven into the fabric of the economy and each industry sector. So there is reason to be optimistic. But as to just how optimistic, we turn first to respondents to Environmental Business Journal's Annual Industry Outlook survey,



Inside EBJ: Environmental Industry Outlook

Environmental Industry Outlook remains optimistic even coming off record years of growth in key segments. Economic indicators, global security and election uncertainty are factors, but infrastructure and climate funding, energy transition, ESG, PFAS, water and resilience demands across the client spectrum fuel growth. Firms deal with labor shortages and price increases, but margins and valuations remain high1-15 Anguil Environmental Integrates Contractor Adding Value in APC Solutions...... 16 Dudek CIO Tackles the Present & Future of Generative Artificial Intelligence 20 Cultural Resources Market Matures; Growth From NEPA, NHPA & BIL............25 Corvias Infrastructure Solutions Leads Community-Based Water Partnerships 47 Jacobs Furthers Implementation of Nature-Based Solutions in Southeast Asia 50 EA Engineering Science and Technology Leads With Nature-Based Solutions..... 54 CCBJ Segment Feature: Climate Change Consulting Continues Double-Digit Growth as Practice Areas and Projects Grow in Mitigation & Compliance and EBJ Lifetime Achievement Award profiles: Steve Nalefski, Retired Senior VP & General Manager, Environmental Services, Burns & McDonnell; and James "Jim" Walsh, Chairman of SCS Engineers were honored at EBJ's Environmental Industry

Environmental Business Journal, Volume XXXVII, Numbers 3/4, 2024

conducted in March and April of 2024 with more than 50 respondents

Comparing EBJ survey results over the last four years in terms of previous years growth and current year forecast indicates the increasing optimism around the health of the industry and client demand. Highlighted in bold on the table on page 2, the previous year's average revenue growth went from a slight decline in 2020 to 4.3% in 2021, 6.2% in 2022 and 8% in 2023 as reported for 2023 in this instance in the 2024 survey.

Whereas there are some common respondents every year to the similar EBJ survey, the respondent set is not identical. Comparing the 2023 and 2024 survey results, the average growth reported for the year 2022 varied by two points as an example. Regardless, the trend remains increasing optimism about growth and margins, with italicized current year expectations of growth going from 6.4% to 6.6% to 7.0% over the last 3 years of surveys. and average margins increasing the last two years.

Comments on key factors that impact forecast

- Looking at billing rate increases and improving productivity.
- Large Program ending
- A couple large multi-year expert witness jobs.
- Interest rates
- Resourcing and Forecasting Accuracy
- Inflation and response of clients to economic factors
- Government infrastructure funding
- Delayed projects moving forward and new business with key clients
- Large projects delayed by COVID started
- Capital expenditure
- Post-pandemic & BIL funds
- Increased backlog
- Federal Funding Boosts

	None	Minimal	Moderate	Many/High	More than we can handle
BIL Proposals in 2023	21%	29%	38%	4%	8%
BIL Proposals in 2024	22%	22%	30%	26%	0%
BIL Projects in 2023	29%	38%	17%	8%	8%
BIL Projects in 2024	27%	36%	27%	9%	0%
IRA Proposals in 2023	35%	30%	26%	9%	0%
IRA Proposals in 2024	23%	32%	27%	18%	0%
IRA Projects in 2023	35%	39%	17%	9%	0%
IRA Projects in 2024	27%	45%	18%	9%	0%

Proposals & Projects Resulting from the BIL & IRA

Source: Environmental Business Journal: 2023 & 2024 EBJ Outlook Surveys. Question was: Please report level of current proposal submittal activity and project wins directly resulting from the Bipartisan Infrastructure Law (BIL) and the Inflation Reduction Act (IRA).

Company's Gross Revenue Growth Rates: 2019-2024

	2019	2020	2021	2022	2023	2024
2024 Survey	2.7%	2.8%	3.8%	8.2%	8.0%	7.0%
2023 Survey	3.7%	0.7%	2.7%	6.2%	6.6%	6.5%
2022 Survey	2.4%	-0.3%	4.3%	6.4%	6.4%	
2021 Survey	2.5%	-0.5%	2.9%	3.3%		

Source: EBJ Snapshot Surveys - 2021, 2022, 2023, 2024. Question was: report your gross revenue growth rate.

Billing Rate, Labor & Salary Increases: 2021-2023

	2021	2022	2023
Billing Rate or Price Increase	4.4%	6.6%	5.6%
Labor Cost Increase	3.9%	6.6%	6.2%
Manager/Executive Salary Increase	4.1%	6.5%	4.8%

Source: EBJ Snapshot Surveys 2023 & 2024. Question was: Please report approximate average labor cost, salary and price/billing rate increases compared to the previous year.

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Anguil: See my comments above on the RNG and Battery markets.

EBJ: How much of today's Air Pollution Control Market would you say revolves around the combustion of fossil fuels? And then the broader air quality Market, how is that impacted by energy transition given air quality markets in indoor air and worker safety and what other applications outside of power generation, manufacturing and industrial process emission control?

Anguil: Environmental, Social, Governance (ESG) standards have changed the way our customers source combustion devices that were traditionally fueled by natural gas or propane. It has forced us to expedite our research and development of alternative fuel technologies. Anguil has decades of experience supplying alternative heating methods for oxidizer technologies. While the electrically heated catalytic oxidizer is well established and widely applied, before ESGs the industry was slow to integrate lower carbon components like electric heating elements and hydrogen fueled burners into the primary combustion technology; Regenerative Thermal Oxidizers (RTOs).

Thankfully, Anguil is at the forefront of low-carbon oxidation solutions with established designs and scalable options for both thermal and catalytic oxidizers. When compared to traditional natural gas fired combustion systems, these industry leading technologies offer lower carbon footprint, faster installation, quicker system start-up, enhanced flexibility during low-flow conditions, reduced maintenance, high reliability, and comparable capital costs.

Anguil oxidizer designs with electric heating elements have zero NOX, SOX, or CO2 emissions and eliminate the need for gas connections, fuel trains and burners. For customers with hydrogen capacity, we also offer these specialty burners which eliminate SOX and CO2 emissions. Dualfuel functionality is also an option for situations where redundancy is required. All these benefits, with the same high-energy recovery and destruction efficiencies seen from using natural gas burners.

LABELLA ASSOCIATES CREATES LEADERSHIP POSITION IN CLIMATE & ENVIRONMENT REFLECTING NEW CLIENT DEMANDS

LaBella Associates is home to over 1,800 multidisciplinary consultants across more than 35 offices who plan, design, engineer, and manage public and private projects that enrich our communities. Our expertise is recognized in infrastructure, buildings, environmental, and energy projects throughout the eastern United States, the United Kingdom, and Spain. Headquartered in Rochester, New York, employee-owned LaBella is a certified Great Place to Work. Throughout its history, LaBella has increasingly focused on forwardlooking services and technologies that address critical issues facing our communities and environment, including renewable energy solutions, sophisticated design of power-related systems in the move toward electrification, waste and recycling services, and a range of consulting and design solutions (i.e. stormwater management, sources of clean water) to address sustainability, resiliency, and climate change.

Greg Senecal has 33 years of experience in designing, managing, and conducting environmental assessment programs, investigation and remediation services, and brownfield redevelopment projects. He recently transitioned from Director of Environmental Services to a newly created role at LaBella—Executive Director of Climate & Environment.

EBJ: In which ways are LaBella's Environmental, Climate, and Sustainable solutions unique?

Greg Senecal: LaBella is a diverse company that addresses many of the engineering and environmental challenges that can assist with climate change adaptation and sustainability.

Headquartered in Rochester, New York with several more offices across the state, LaBella has close proximity to the Great Lakes, an estuary river system (the Hudson River), and a coastal shoreline downstate-three unique ecosystems that will experience climate change in different ways over the next century. With offices along the entire East Coast, we are able to really hone in our expertise from the thousands of projects we complete annually in New York State. Because of the unique ecosystems, various environmental regulations and initiatives like PFAS monitoring have been a focus for years. This makes La-Bella uniquely qualified to take our expertise to states where studies and regulations are just emerging.

Our environmental staff has been cleaning up waterfront brownfields in Rust Belt communities throughout the Great Lakes region for decades. Our landfill engineers capture methane gas and turn it into energy. Our mechanical and electrical engineers play a lead role in energy efficiency, electrification, and decarbonization.

LaBella's renewable energy team permits, designs, and commissions hundreds of solar and Battery Energy Storage Systems across our footprint, and our utility engineering teams provide modifications to the grid to allow for the transmission and distribution of these renewable energy resources.

When our architectural team pairs with our electrical engineers, we're able to work with transit authorities and school districts on electrifying their transportation fleets.

Our environmental and civil engineers work together to design climate-resilient structures for our riverways and coastal communities. Once these designs are complete, our environmental and ecological construction teams go to work constructing the projects.

LaBella has continued to grow and evolve as a corporate environmental citizen. With this evolution and the climate challenges that are now facing the planet, we recognize that it is our responsibility to continue to provide our client partners and communities with our expertise in renewable energy, climate solutions, energy effi-

Environmental Business Journal, Volume XXXVII, Numbers 3/4, 2024

ciency, and impactful solutions to achieve carbon neutrality.

EBJ: How would you characterize the trends in environmental, climate and sustainability markets?

Senecal: The environmental market has never been stronger than it is today. The realization of the need to develop electrical infrastructure coupled with increasing federal regulations has created a wide range of opportunities for environmental practitioners. The strong development markets in the southeast and southwest are driving the need for land recycling and commercial real estate solutions, and the focus on renewables in the northeast has resulted in opportunities that did not even exist a decade ago.

Regarding climate change, increased global awareness of climate change, the Paris Climate Accords, rising ocean levels, and energized weather patterns have all culminated in opportunities for firms that are willing to engage and take on new challenges. With the landmark Bipartisan Infrastructure Law funding, the federal government has proven that ensuring our infrastructure is more resilient to changing weather trends is a priority.

In Sustainable Solutions, while our electrical and mechanical engineers can provide electrification solutions for buildings and state agencies with funding from state and federal sources, finding architectural clients who have the budget to design state-of-the-art, energy-efficient buildings is challenging.

Similarly, state mandates in the northeast and goals around the electrification of transportation fleets are challenged by the range limitations of battery electric vehicles, the limitations of the grid to get adequate electricity to the charging sites, and the infrastructure needed to support this emerging market. Hydrogen fuel cell electric fleets as well as the generation, transportation, and storage of hydrogen represent challenges that must be overcome to make significant progress in the sustainable transportation market.

EBJ: What important client demand trends are shaping the industry?

Senecal: In many cases, sustainable design solutions can be incorporated without a large budget increase. One of the most common ways we're seeing clients embrace sustainable design is with the use of green infrastructure. This technique centers around a water management system that benefits communities in a multitude of ways, including improving stormwater quality, beautifying neighborhoods by introducing native plantings, and creating a cooling effect in metropolitan areas.

Electric utility companies are being influenced by state and federal mandates to reduce the dependance on hydrocarbon-based fuel sources and are creating a significant amount of work by initiating renewable energy programs. Our energy professionals are at the forefront of electrification and decarbonization, working alongside clients from multiple vertical markets to provide turnkey holistic energy solutions from project conception through commissioning.

From low-income housing to investorowned utilities, we consult with some of the nation's most sophisticated agencies to reduce greenhouse gas emissions and make facilities more efficient. These projects include both the enhancement of existing energy-consuming equipment and the design of on-site energy generation.

Our architects and electrical engineers are working with transportation authorities and school districts to evaluate reduced emission transportation alternatives and design infrastructure to support these climate-friendly options.

EBJ: What challenges does the environmental industry face in attracting and retaining talent?

Senecal: When considering the exponential expected growth of the AEC industry over the next five years coupled with the aging workforce, shrinking labor pool, salary expectations, and tightening budgets, the current job market favors the candidates in many ways.

Civil and climate engineers are in particularly high demand across the United States due to the federal Bipartisan Infrastructure Law, which allocated \$550 billion toward infrastructure projects such as roads, bridges, and mass transit, water infrastructure, resilience, and broadband.

The increased cost of materials and other expenses we've seen across the industry is generating additional pressure from clients to keep fees low.

EBJ: What other significant challenges is the industry encountering?

Senecal: From a state and federal level, mandates related to zero emissions are increasing at a rate that is not currently able to be supported by the existing electrical grid.

EBJ: What regulatory changes are impacting the market?

Senecal: With the increased focus on climate change and renewable energy sources across the globe, we're seeing funding become available at all levels of government. From a federal level, you could consider FEMA's Hazard Mitigation Grant Program (HMGP). Local funding sources vary significantly from state to state. An example of a local funding source near our headquarters in Rochester, New York, is the NYS Lake Ontario Resiliency and Economic Development Initiative (REDI). This funding allowed lakeside communities to submit varying project types for funding consideration, including shoreline restoration, increasing stormwater capacities, and even water/wastewater system improvements.

State agencies in northeastern states are embracing climate and sustainability plans as state-by-state mandates require climate action sustainability plans and programs. Federal incentives provided for under the general umbrella of the Bipartisan Infrastructure Law are providing funding for many of these state programs.

On April 10, 2024, the US EPA announced its final National Primary Drinking Water Regulation (NPDWR) for six per- and polyfluoroalkyl substances (PFAS) commonly found in drinking water throughout the country. This rule has established legally enforceable MCLs for PFOA, PFOS, PFHxS, PFNA, and HFPO-DA when measured as individual contaminants, as well as a Hazard Index MCL for PFAS mixtures containing two or more compounds, including PFHxS, PFNA, HFPO-DA, and PFBS.

Throughout the United States, installation of renewable energy sources has been increasing. A movement toward new policy has started to emerge-what will happen to a solar power plant when it is ready to be retired? Coined "decommissioning," the process of retiring solar arrays includes the disposal of the panels as well as the remediation of the project site on which they were installed. At present, there is no set policy framework at a national level for establishing the decommissioning process and who is responsible. This leaves much of the policymaking up to state and local governments, which has created a disconnect around decommissioning policies that vary widely from state to state and from jurisdiction to jurisdiction.

EBJ: What climate resiliency and renewable energy projects have you worked on recently?

Senecal: LaBella is currently providing consulting services for four investor-owned gas utility companies in New York City to convert their existing underground gas network to a hydronic ambient temperature loop that leverages geothermal energy. Outside of the design and construction elements of climate resilience, the Olympic Regional Development Authority has tasked LaBella with creating a climate and sustainability policy for their organization.

Funding related to shoreline stabilization and resiliency has been at the forefront of climate programs due to increased flooding. LaBella has recently led shoreline resilience projects on Lake Erie, Lake Ontario, the Genesee River, the Oswegatchie River, and the St. Lawrence Seaway.

For example, following a successful environmental cleanup program, LaBella worked with the Fort La Présentation Association and the New York State Office of Parks, Recreation, and Historic Preservation to develop a master plan for restoration of the historic Fort de La Présentation site. Located at the confluence of the Oswegatchie River and the St. Lawrence Seaway, the 25.9-acre site was highly susceptible to erosion and flooding, making resilient design a top priority. The master plan envisioned a riverfront park, including erection of a replica fort, a series of recreational trails, and enhanced access to the waterfront. LaBella prepared an Engineer's Report with recommendations for flood mitigation, trail preservation, and shoreline stabilization. We then worked with multiple state and federal agencies to complete permitting, coastal zone consistency review, and detailed design to implement the resiliency measures. LaBella's renewable energy team has focused on citing solar arrays on decommissioned landfills, brownfields, and water reservoirs. One project currently in construction is a floating solar array in the City of Cohoes. This will be the first municipally owned floating solar field in the country and the first floating solar array in New York. Located on Cohoes Drinking Water Reservoir, the solar panels will shade the water and reduce algae. In addition to powering all current city buildings, the extra power will be directed to the high school.

LaBella Associates Continues Environmental Business Success and Promotes Key Leaders

In November 2023, LaBella Associates announced the advancement of two of its senior leaders: Greg Senecal to Sr. Vice President & Executive Director of Climate & Environment and Jennifer Gillen to Director of Environmental. The role of Sr. Vice President & Executive Director of Climate & Environment was created to reflect the growing need for expertise in environmental, climate, and sustainable solutions across all project types. As he steps into this role, "LaBella's multi-disciplinary approach means we can pull that expertise in from across the company, no matter the primary project type," said Greg Senecal. "We're capable of bringing together funding, energy expertise, and innovative and sustainable design, for a wide variety of projects and clients. Sustainable design and climate resilience considerations are permeating every area of our practice." Greg joined LaBella as an Environmental Analyst in 1990 and went on to accumulate more than 33 years of experience in designing, managing and conducting environmental assessment programs, investigation and remediation services, as well as brownfield redevelopment projects. Greg served as Director of Environmental and under his leadership, the Environmental Division at LaBella grew from a staff of 10 to 240 environmental professionals. Greg has also played an important role in geographic expansion for the firm and led the creation of the ecological department, environmental construction department, and the renewable energy practice group. He serves on the LaBella Board of Directors. Jennifer Gillen is now responsible for both fiscal and technical oversight of environmental consulting and construction services. Jennifer previously was Environmental Operations Manager at LaBella, and running LaBella's Affordable Housing Committee, a group of professionals from environmental, engineering, renewable energy and planning, and empowering LaBella to assist its partners in creating affordable and supportive housing. Jennifer is also a founding member of LaBella's Inclusion Council.

LaBella Acquires ENGR3 to Expand in MEP & the Southeast

In May 2024, LaBella Associates expanded its mechanical, electrical, and plumbing engineering team in the Southeast through the acquisition of ENGR3, an Alpharetta, Georgis-based team of 13. Founded in 2019, ENGR3's portfolio of multifamily, mixed-use, and commercial development projects is a natural fit for LaBella's continued growth in the building design sector. "LaBella's success at building scale without compromising culture is exactly what ENGR3 wants to achieve," ENGR3 Principal owner Trey Long said. "LaBella is a new home for our team that gives us room to grow, with supportive employee-ownership and in-house resources that will enhance our capabilities."