ENVIRONMENTAL BUSINESS JOURNAL®

Strategic Information for a Changing Industry

Vol. XXXVII, Numbers 3/4, 2024

EBJ 2024 Environmental Industry Outlook

Environmental Business International Inc.

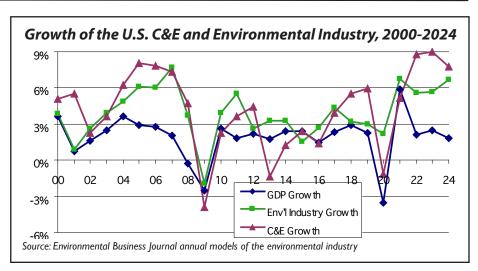
US ENVIRONMENTAL INDUSTRY OUTLOOK

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.

Environmental Business Journal ® (ISSN 0145-8611) is published by Environmental Business International, Inc., 4452 Park Blvd., #306, San Diego, CA 92116. © 2024 Environmental Business International, Inc. All rights reserved. This publication, or any part, may not be duplicated, reprinted, or republished without the written permission of the publisher.

To order a subscription, email info@ebionline.org, call 619-295-7685 ext. 15 or visit www. ebionline.org/ebj. A corporate electronic subscription with internal reproduction license and access to data files starts at \$1,500 and allows up to five registered users with rates increasing in five user increments. Individual editions or discounted corporate subscriptions are available for firms with under 100 employees.

Editor in Chief, Grant Ferrier	Federal Analyst, Andrew Paterson				
Research Director, Laura Carranza Managing Editor, Lyn Thwaites					
Contributors, George Stubbs, Jim Hight	Research Analyst, Laura Fernandes				
EDITORIAL ADVISORY BOARD					
Andrew Paterson; James Strock, Founder, Serve to Lead.; P.S. Reilly, President,					
NextGen Today; Al Spiers, 2020 Environmental Group; Steven Maxwell, TSG;					
Jessica Barclay, Environmental Financial Consulting Group					

CIS LEADS COMMUNITY-BASED WATER PARTNERSHIPS CENTERED ON EQUITY, INNOVATION AND COLLABORATION

CIS (Corvias Infrastructure Solutions) is a national leader in the development and implementation of public infrastructure solutions, focusing on improving the environmental, economic, and social condition of the nation's infrastructure through solutions that drive local economic inclusion and equity, reduction of public risk, and increased community investment and buy-in. CIS also offers related advisory expertise and services on topics including nature-based solutions, climate resilience, disaster prevention, environmental equity/justice, green stormwater infrastructure, environmental finance, water affordability, and public trust. CIS has overseen the implementation of hundreds of green stormwater infrastructure projects totaling nearly \$450 million across the Mid-Atlantic, Great Lakes and West Coast regions. In 2023, CIS's total revenues were nearly \$40 Million. The firm maintains four physical offices in Seattle (WA), Ann Arbor (MI), Milwaukee (WI), and Largo (MD). Centered on water/wastewater, all of CIS's work is in the government sector.

Sanjiv Sinha, Ph.D., is the Chief Executive Officer & Board Member of CIS. In April 2023, Dr. Sinha took over CIS, spun-off from the **Corvias Group LLC**, to enable focused branding to leverage its pioneer status in water-sector, community-based partnerships centered on equity, innovation, and collaboration. In one year, staff has quintupled, the number of clients more than doubled, and new offices were opened in Milwaukee, Seattle, Ann Arbor, and near Philadelphia. Sinha also started an Advisory/Consulting Practice on climate resilience, disaster prevention, environmental finance, and justice. Dr. Sinha serves as the chairman of the Board of Directors of Delta Institute and as a member of U.S. EPA's Environmental Finance Advisory Board. Previously, he founded Resilient Infrastructure for Sustainable Communities, was the chairman of the Board of Directors for Alliance of the Great Lakes, on the Board of Advisors for Augment Ventures, and on the Board of Directors at Michigan League of Conservation Voters. Dr. Sinha worked for nearly 22 years at ECT, and left the firm as its Chief Sustainability Officer/Senior Vice President. Prior to ECT, Dr. Sinha was a management consultant at Booz Allen Hamilton, and before that, he was a visiting assistant professor at University of Michigan in Ann Arbor.

EBJ: How has business been for CIS over the past couple of years? What have been some milestones that you have achieved?

Sanjiv Sinha: In April 2023, CIS spunoff from the Corvias Group LLC, to enable focused branding to better leverage its pioneer status in water-sector, community-based partnerships centered on equity, innovation, and collaboration. As of May 2024, CIS had rebranded, number of staff quintupled, number of clients more than tripled, and new offices were opened in Milwaukee, Seattle, and Ann Arbor. CIS also started an Advisory Practice on topics like climate resilience, disaster prevention, environmental finance, and environmental justice. New, active social platforms were added, and the firm went on to win three national awards for its innovative work. CIS's 2024 budgeted revenue and profits are set to more than double, compared to prior year.

EBJ: How would you describe the current state of the environmental industry within your key segments?

Urban Resilience

The environmental consulting industry in urban resilience is experiencing significant growth and evolution. With increasing impact of climate change on urban areas, there's a rising demand for expertise in mitigating risks and enhancing resilience. Rockefelller Foundation (2024) estimates that \$3.3 trillion of annual investment and multiple decades are needed to deliver the infrastructure to address basic human needs.. Infrastructure solutions companies are offering comprehensive services, from vulnerability assessments to adaptation planning and implementation.

Collaboration between government agencies, private sector entities, and communities is becoming more common to address complex urban challenges. Advanced technologies like GIS mapping and modeling are being integrated into consulting practices to provide data-driven solutions. Overall, the environmental industry is dynamic, adapting to the changing landscape of urban environmental challenges while striving to create more sustainable and resilient cities.

Water Resources & Infrastructure

Similarly, the water resources and infrastructure sector is also experiencing a surge in demand driven by growing concerns over water quality, availability, and infrastructure resilience. In a U.S. Environmental Protection Agency (EPA) report (2024) to the congress published in April, EPA reported a need of \$630 Billion to address nation's water quality problems over the next two decades alone! That's a very large market, and private sector firms are playing the needed critical role in assessing and managing water-related risks, including contamination, scarcity, and aging infrastructure.

There's a trend towards integrated solutions that consider the interconnection between water resources, infrastructure, and environmental impacts. Additionally, regulatory requirements and increased public scrutiny are driving the need for more comprehensive and innovative approaches to water management. Emerging technologies such as remote sensing and predictive analytics are being leveraged to improve monitoring and decision-making processes. Overall, the industry is focused on promoting sustainable water management practices to address current challenges and prepare for future uncertainties.

Urban Reforestation

Finally, as cities recognize the multiple benefits of urban forests, including improved air quality, carbon sequestration, and enhanced biodiversity, there's a growing demand for expert guidance. Reforestation Hub identifies 148 million acres of total opportunity for reforestation across the nation, an area the size of California and Washington put together, which could capture up to 535 million metric tons of carbon dioxide each year.

Consulting firms are offering services ranging from site assessments and species selection to implementation and maintenance of urban reforestation projects. Collaboration between local governments, non-profit organizations, and private sector entities is becoming increasingly common to achieve ambitious urban greening goals. Furthermore, innovative approaches such as green infrastructure integration and community engagement are shaping the future of urban reforestation consulting.

All of the above has to be seen in the context of national and state policymaking. Large federal funding under the Infrastructure Investment and Jobs Act (IIJA) and Inflation Reduction Act (IRA) have enabled state and local governments to expand their programming on the above areas, thereby enabling consulting firms to provide a wider range of services to communities across the country.

EBJ: How do you measure customer satisfaction and value creation in your business?

Sinha: In our asset management and advisory business, we employ various metrics to gauge customer satisfaction and measure value creation. Firstly, we regularly solicit feedback from clients through surveys and reviews, focusing on aspects like responsiveness, communication effectiveness, and the quality of our recommendations. Additionally, we track key performance indicators aligned with our clients' investment objectives, such as portfolio returns, risk-adjusted performance, and adherence to financial goals. Moreover, we assess the longevity of client relationships and the level of trust and confidence they place in our expertise. By continuously monitoring these metrics and adapting our strategies to meet client needs, we ensure that we're delivering meaningful value and maintaining high levels of satisfaction.

EBJ: How do you balance the adoption of cutting-edge technologies with the practical needs and preferences of your customers?

Sinha: Balancing the adoption of cutting-edge technologies with the practical needs and preferences of asset management and advisory customers requires a strategic approach. Firstly, we conduct thorough research and analysis to understand our clients' specific requirements and pain points. Then, we assess the potential impact and feasibility of integrating new technologies into our services while ensuring they align with clients' objectives. Continuous communication and feedback loops are vital to gauge client preferences and adapt our technology offerings accordingly.

Additionally, we prioritize user-friendly interfaces and seamless integration to enhance the customer experience and minimize disruption. By maintaining a customer-centric focus and leveraging technology as an enabler rather than an end in itself, we ensure that our solutions meet both the evolving industry standards and the unique needs of our clients.

EBJ: How do you foster a culture within your company that encourages continuous improvement and innovation in creating value for customers?

Sinha: At CIS, we foster a culture of continuous improvement and innovation by encouraging open communication and collaboration among team members. We promote a growth mindset where employees are empowered to challenge the status quo and explore new ideas. Regular training sessions and knowledge-sharing forums provide opportunities for professional development and the exchange of best practices.

We also incentivize innovation through recognition programs and rewards for initiatives that result in tangible value for our clients. By embedding this culture into our organizational DNA, we cultivate a dynamic environment where innovation thrives and value creation for customers remains a top priority.

EBJ: What are the most outstanding programs that CIS has performed over the past couple of years?

Sinha: This is a tough question as CIS has completed many programs that one might consider outstanding. One of the key principles in our work is to develop business capacity in underserved communities using local, small, and minorityowned businesses. Two programs presented below provide examples of leveraging this principle.

Clean Water Partnership: In 2015, Prince George's County, MD, and CIS entered into a "first of its kind" innovative 33-year community-based partnership (CBP), the Clean Water Partnership (CWP). The partnership is the first and largest CBP addressing stormwater management with a portfolio of hundreds of unique sites and projects located throughout the County.

CWP's efforts began with a mandate to retrofit (4,000 impervious acres) over six years. CWP has identified, designed, and built retrofit projects to treat more than 4,000 acres of impervious area that was not treated before. In 2016, 13.5 percent (~ 41,000 acres) of the County's land area was covered by impervious surface. In other words, the program was designed to impact nearly ten percent of the 2016 impervious acreage.

The CBP includes county-wide planning, community engagement, green stormwater infrastructure implementation, and stream restoration to treat the runoff from nearly 6,000 acres. The CWP benefits from CIS's alternative delivery model that combines programmatic management and contractor development to solve its infrastructure needs. This approach allows for the majority of the program's funds to be used to contract with local, women and minority owned business entities (WMBE), enabling them to participate in projects by removing financial barriers that small businesses typically face.

To date, of the \$350 Million spent across county, 79% of all funds have been awarded to benefit local and WMBE. Fifty-four percent of the total hours worked have been by county residents, or nearly 40,000 hours total.

Fresh Coast Protection Partnership: In 2020, the Fresh Coast Protection Partnership (FCPP) was launched between Milwaukee Metropolitan Sewerage District (MMSD) and CIS to scale up green stormwater infrastructure (GSI) implementation to meet the district's 2035 goal of capturing the first half inch of rain, or 740 million gallons of water each time it rains. Through this capture of rainfall, green infrastructure will help reduce flooding, eliminate pollutants that are discharged into the rivers and streams in the Milwaukee watershed and help MMSD with an integrated watershed management approach.

Leading a team of experienced local delivery partners, CIS is providing a costeffective, large-scale community-based partnership (CBP) that is delivering GSI and investing in low-to-moderate income areas. The partnership aggregates and streamlines the financial, procurement and project delivery efforts within MMSD's service area.

The program is building GSI throughout the greater Milwaukee region to capture nearly 12 million gallons of stormwater across 19 municipalities. This is reducing overflow volume and regional flooding on private land, the combined sewer service area, municipal separate storm sewer system (MS4), and the deep tunnel system in communities within the Greater Milwaukee region.

To date, of the \$29.2 Million spent across Greater Milwaukee region, 90% of projects are located on private property, 50% of the projects are located in lowto-moderate income areas, and 46% of the contracts have been awarded to small, women, minority, and veteran-owned businesses.

EBJ: How is CIS approaching the climate adaptation market?

Sinha: CIS is built entirely upon coming up with creative, highly innovative solutions to meet the climate adaptation needs of America's urban core. Everything we do is directly connected to it. Why? Because it is badly needed. For who: For your children and our own! When: Today is the right time. How: We must work together to address the challenge.

EBJ: What was your original inspiration to get into this project and the environmental industry in the first place?

Sinha: CIS was formed to focus upon solving the challenge of climate adaption in the urban core. If by "your", you mean me (Sanjiv), it has been my privilege to make a living leading a company that plays a pivotal role in climate adaptation by mitigating the impacts of extreme weather events such as floods and heatwaves. Incorporating green spaces like parks and urban forests helps regulate temperatures, improve air quality, and enhance overall resilience to climate change. By investing in green infrastructure, communities can bolster their adaptive capacity and foster sustainable development for a more resilient future. Honestly, I feel very lucky although luck has accompanied significant changes along the path and a lot of very hard, careful work.

EBJ: Where did you grow up and complete your education, and what are the most compelling pieces of evidence of environmental degradation and climate change that you have witnessed or experienced personally and professionally in your lifetime?

Sinha: I spent the first eighteen years of my life in Patna, the state capital of Bihar, in India. I have an undergraduate degree from Indian Institute of Technology (Roorkee, also in India), a Master's degree from University of Minnesota, and a PhD from University of Iowa. Regarding compelling pieces of evidence of environmental degradation and climate changes, they unfortunately are all around us! Rising temperatures and increased frequency of extreme weather events, such as heat waves and intense storms, are now published in popular media on a weekly basis. Everything feels different. But I believe it is solvable, with a clear focus, right priorities, and most importantly our perseverance. That is what we are trying to do at CIS. We owe it to our kids. \Box

CCBJ Award in Industry Leadership: Clean Water Partnership

Corvias Infrastructure Solutions (CIS) won a 2023 EBJ and a CCBJ award for the Clean Water Partnership (CWP), and its model urban green stormwater infrastructure program. CIS also won an EBJ award for Diversity & Inclusion for the same wide-ranging project. Underserved communities have been disproportionately impacted by weather and climate disasters, and these programs leverage infrastructure investments to increase community resilience while addressing injustices, building the local workforce, and bolstering local economic development. The CWP is a partnership between Maryland's Prince George's County and CIS, and a first-of-its-kind, community-based public private partnership (CBP3) as a socio-economic solution to delivering climate resiliency at scale. Through this 30-year partnership, the county is investing over \$350 million in total development costs, and as of December 2023 CIS has completed 215 projects totaling over \$250 million. In 2014, Prince George's County was faced with an enormous regulatory challenge in the management of its National Pollutant Discharge Elimination System and its Municipal Separate Storm Sewer System (MS4) Permit. Traditional project delivery methodologies and procurement could have been utilized; however, given the magnitude of the challenge of retrofitting 2,000 impervious acres with green infrastructure, with the flexibility to potentially grow to 15,000 acres of untreated impervious area by 2025, and an estimated cost of \$100 million, an alternative solution was sought. Over the last

seven years, 54% of hours worked have been by county residents, and nearly 80% of work has been done by local, women, and minorityowned business entities (WMBE), with CIS mentoring over 60 WMBEs.

