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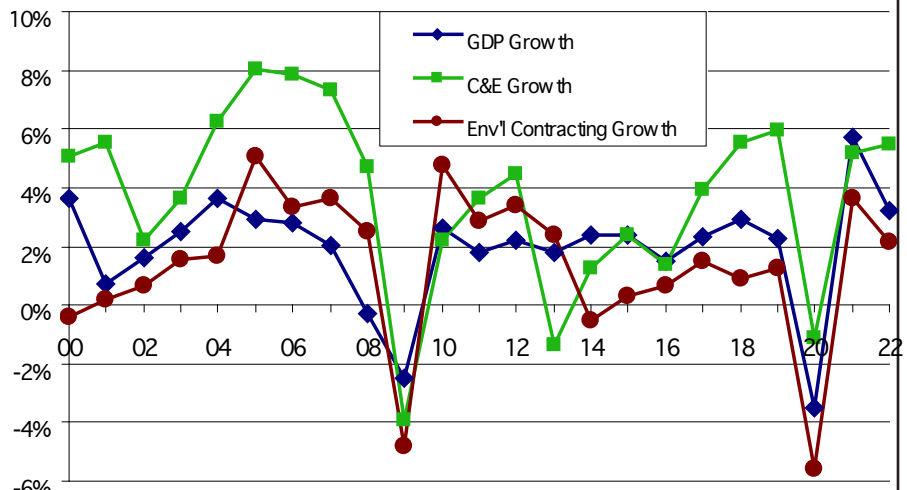
HEADWINDS DO LITTLE TO CURTAIL C&E INDUSTRY TAILWINDS

In the third quarter of 2022, while world economies are tormented by global geopolitics, inflation, stock market corrections, supply chain disruptions, and the ongoing specters of climate change and energy supply in a decarbonizing future, the environmental industry seems tormented mostly by one singular question: Where are we going to find enough people to do all of the work?

Many of the larger engineering firms have job listings numbering in the thousands. And while few are turning away work, many are having to prioritize where and when to deploy their experienced project management leaders. But it is not all clear sailing in the environmental industry. It never has been in a still relatively fragmented industry with regional and sectoral variations that make short-term business planning and long-term strategy a perpetual challenge. Economic headwinds cloud the forecast, but federal funds authorized for infrastructure, clean energy and their respective environmental components, as well as the tailwinds of ESG and decarbonization, promise to keep the human resources departments of environmental services companies very busy for the foreseeable future.

Environmental Business Journal's annual compilation of revenue performance of over 700 environmental consulting & engineering firms—and EBJ's resulting industry model as summarized in this review—concludes a 5.2% growth rate in 2021, a modest increase from our interim estimate of 4.8% growth for the $36.4 billion U.S. environmental consulting & engineering industry. Growth was almost as high as the 5.7% growth in the gross domestic product in the United States in

Annual Growth in Environmental Services vs GDP, 1990-2022



Source: Environmental Business International, Inc. Annual segment models by EBI and EBJ derived from surveys, interviews, compliations of secondary data and published company data.

Inside EBJ: **Consulting & Engineering 2022**

help connect them with new clients. It's a win for all of us.

Waste360: What will be key to reaching your goal of commissioning 100 anaerobic digesters by 2026?

Smith: The most important consideration for us toward accomplishing this goal is a solid strategic plan that keeps us focused and nimble as we embark on this phase of rapid growth. We won't be able to achieve our vision without a winning team, and similarly to the way we are building digesters, we are building a team from the ground up. We come to work every day knowing that the world is facing a climate crisis. CO2 in the atmosphere is now at 420-plus parts per million, which Earth hasn't experienced since the Pliocene era, more than 4.2 million years ago — that makes what we do even more pressing. □

Ecobot Integrates Mitigation Banking Data

In May 2022, Ecobot integrated mitigation banking data as part of a platform enhancement. This innovation advances Ecobot's broader mission to streamline environmental and construction processes while leveraging field data to help build a more climate-resilient future.

Ecobot customers can now view mitigation banks by list or interactive map, along with their approval status, type, and U.S. Army Corps of Engineers (USACE) district. Ecobot automatically generates a list of banks nearby each project area, as well as a downloadable vegetation species list.

In a review of U.S. Army Corps Data, the National Environmental Banking Association (NEBA) states that the "use of credits from a mitigation bank may cut permitting timelines by as much as 50%."

ECOBOT WORKS TO DIGITALIZE ENVIRONMENTAL PROJECT WORKFLOW

Ecobot builds revolutionary software that improves how we interact with the environment. Ecobot is the future of environmental monitoring, reporting, and data forecasting, providing efficiency across all sectors of the environmental services industry. The first version of Ecobot provides a swifter way to input wetland field data, provides contextual vegetation and soil data lookups, automatically generates USACE wetland delineation reports, and provides relevant mitigation banking and monitoring data.

Lee Lance co-founded Ecobot in 2018 with environmental consultant Jeremy Schewe, PWS, and engineer Emmet McGovern, connecting a trifecta of decades-long scientific, engineering, and strategic business experience.

EBJ: You describe the company as the 'construction software company driving the digitization of pre-construction environmental permitting'. How has this description evolved in your history and how has your business model evolved along with it?

Lee Lance: The AEC industry as a whole demands better data to make more resilient decisions about the built environment, in a way that it didn't just a handful of years ago. When we started Ecobot, we saw a clear opportunity to digitize a half-century-old paper-driven workflow. As we engaged with more customers in the AEC industry who were working on larger infrastructure-scale projects, we gained a deeper understanding of how environmental permitting data can be used to influence the rest of the construction cycle.

EBJ: Congratulations on integrating mitigation banking. How do you view how the mitigation banking business itself has emerged and evolved over the last decade or more?

Lance: Mitigation banking has grown out of a broader recognition of the important functions of natural resources that impact our present and future while enabling economic progress. The industry itself is a unique example of a good balance between regulatory policy and the regulated community. The combination of regulatory oversight and the open, private economic marketplace constitutes a truly sustainable solution.

As ESG promises have become ubiquitous, consultants and their clients alike are looking for ways to demonstrate practical implementation of management promises. The role of mitigation banking in real estate and infrastructure development will continue to gain broader support as we all work toward resilience in the face of the impacts of climate change.

EBJ: Many view mitigation banking as being limited to a specific watershed or relatively defined geographic area. Is this a fair assumption, or how much state or regional variation is there in mitigation assets?

Lance: Part of what makes mitigation banking valuable is that conservation, including restoration, enhancement, and preservation of important resources, takes place within the same area of impact as the site of development. "Limited" is the wrong connotation—it's actually quite the opposite. Mitigation banking is an opportunity to ensure that economic progress within a watershed has as close as possible to a zero net impact at the watershed level.

EBJ: Do Ecobot and your partners in the business help broaden the potential pool of assets that can be brought forth to offset new projects?

Lance: Ecobot integrates multidimensional data from the field with publicly available sources that our customers need to make better decisions for their clients. Better information helps bankers and consultants support the regulated community in a more impactful way.

EBJ: Do you see the environmental consulting community as a partner?

Lance: Definitely. Ecobot has and will continue to rapidly evolve based on input from our customers, who have generated over 70,000 reports, affording us a unique perspective and approach to the AEC industry. Ecobot's cofounder Jeremy Schewe brings 20 years of pre-construction permitting and consulting experience, and our product manager formerly served as a field scientist and project manager at one of the largest players in the mitigation banking industry.

EBJ: How have you grown the business? Do you have investor or university partners?

Lance: Ecobot is a venture-backed company with institutional investors who bring broad experience across B2B SaaS (Software as a Service). We've raised over $3 million from investors including Cultivation Capital, Runway Venture Partners, Shadow Ventures, SaaS Ventures, Charlotte Angel Fund, and Stout Street Capital.

Our venture backing enables Ecobot's ongoing evolution as we work to realize our broader vision and continue delivering an excellent product that helps our customers better serve their clients.

EBJ: How do you view the potential of carbon fixation assets or carbon banks in the form of natural ecosystems or forestry preservation or restoration in terms of their contribution to a mitigation approach to climate stability?

Lance: A great question. We have exciting times ahead of us as we all work together to build a more sustainable future. □

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Carbon Rules Drive Race For Software Innovation

Companies need faster evolution in carbon management software as new regulations drive demand for more forward-looking capabilities, a report research and advisory firm **Verdantix** says.New rules, including the European Union's Corporate Sustainability Reporting Directive which will see its first draft set of standards adopted in October 2022, as well as the US Securities & Exchange Commission (SEC) proposal to align with the TCFD framework, are driving demand for improved software.

Around 49,000 firms in the EU will need to disclose carbon emissions from next year with the SEC proposals also likely to require reporting from a significant number of firms in the US. As a result, companies are searching for technological solutions that will aid them in meeting these new requirements. However, Verdantix finds that today no single software provider currently has a complete product portfolio capable of offering reporting on all key elements of financial, climate and physical data.

Verdantix says software functionality required by regulated entities include investor-grade auditable data; carbon calculation methodologies; evaluation of physical asset climate risk; and financial management functionality. The market for carbon management software has been in existence for 15 years and has traditionally been dominated by Environment, Health and Safety software companies with track records in data modelling and in emissions calculations. A flood of new entrants which have raised substantial sums of capital, often from private equity, are spurring a new wave of innovation as software vendors vie for a share of the new corporate spending.Verdantix estimates investment of $418 million in the carbon management software in the last 12 months, and says investment is unlikely to decline in the immediate future. Jessica Pransky, Principal Analyst at Verdantix expects that the period ahead will be one of "rapid innovation driven by large-scale investment and high levels of competition between incumbents and new entrants."

2022 Verdantix Green Quadrant: Carbon Management Software

Source: Verdantix Ltd. Green Quadrant: Enterprise Carbon Management Software Report 2022