

**BENEFIT CORPORATION
REPORT
2021**

MAZZETTI



MEANINGFUL WORK

A MESSAGE FROM OUR CEO:

Mazzetti is an employee-owned Benefit Corporation. By California State Law, we occupy the middle ground between being a for-profit company and a not-for-profit organization. That is, like a for-profit company, we must pay taxes on our profits. And, like a not-for-profit organization, we must exist to provide a public benefit, and we must report annually on our progress.

To date, including the period covered by this report, the benefit stated in our Articles of Incorporation is a “general” benefit. We no longer believe general benefit is enough.

Yesterday, the International Panel on Climate Change (IPCC) issued the second of three reports on the existential challenge posed by Climate Change. In August 2021, the IPCC first volume told us that we are in Code Red for Humanity; the window for limiting temperature rise to dangerous levels is nearly closed, and some of the shifts now in motion – such as sea-level rise – are irreversible. Yesterday’s report shows that “we’re seeing adverse impacts as being much more widespread and being much more negative than expected in prior reports, than expected at the current 1.0 degrees that we have.” ([HERE](#)).

For decades, this company has been more than an engineering company; we have been a force for change. For decades, that work has focused on helping our clients to do what they do, while lowering their environmental footprint.

Today, we recognize that we are at a different moment in history. As Don Berwick told me recently, when he defined Healthcare Quality ([HERE](#)), it included six dimensions. But that is no longer enough. Now, Healthcare Quality must include, as a measure of quality, no carbon. In our design business, Form Follows Function. That means that our designs create the stages on which our clients do their work. And, if quality to our clients means no carbon, then quality to us must mean no carbon.

Today, we re-commit ourselves to building not a brick, not a wall, but a cathedral – a company committed to helping our clients decarbonize. Our new Corporate Benefit will be to create zero-carbon, healthy, enduring environments.

Humanity has a small window that is nearly closed. We are doing everything we can to open it back up.

Walt Vernon,
CEO



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VISION: Create healthier, enduring environments.

Why do we exist?

VALUES:

- Team First
- Earn Trust
- Inspire

What is most important to us?

MISSION: Thoughtfully connect people, design, and technology to create lasting, positive impact.

What do we do?

ON THE COVER:

In 2021, Valley Children’s Health (VCH) solicited Mazzetti for energy strategy and analysis. We advised the client based on resilience, finances, regulations, environment impacts, risks, and any bonus opportunities, including a new solar array to be considered on an existing site location. However, since the CEO dislikes the aesthetics of traditional solar arrays, we collaborated on alternatives, leading to the idea of a flower solar installation — a more playful aesthetic, perfect for a children’s hospital. We are helping our clients, including VCH, envision and **make real** healthier, enduring environments.

IMPACT ASSESSMENT OVERVIEW

Mazzetti is an employee-owned Benefit Corporation. In accordance with California Benefit Corporation Law and the Mazzetti Articles of Incorporation, our purpose is to create general public benefit — for society and the environment. In 2021, our benefit corporation acted in accordance with its public benefit purpose, and our directors complied with their duty to consider the impact of decisions on stakeholders.

In 2021, Mazzetti increased our focus on internal sustainability, wellness, and diversity and inclusion (details shared further in the report). Externally, Mazzetti and Sextant continued to focus on delivering better solutions for people and our physical environment, with a continued focus in Healthcare. In addition to helping clients minimize natural resource consumption — energy, water, waste — 2021 marked an acute focus on our global climate crisis and the urgent need to reach carbon neutrality, addressing scopes 1, 2, 3 emissions. This reality will likely remain in 2022 and beyond until we attain our collective zero-carbon goals.

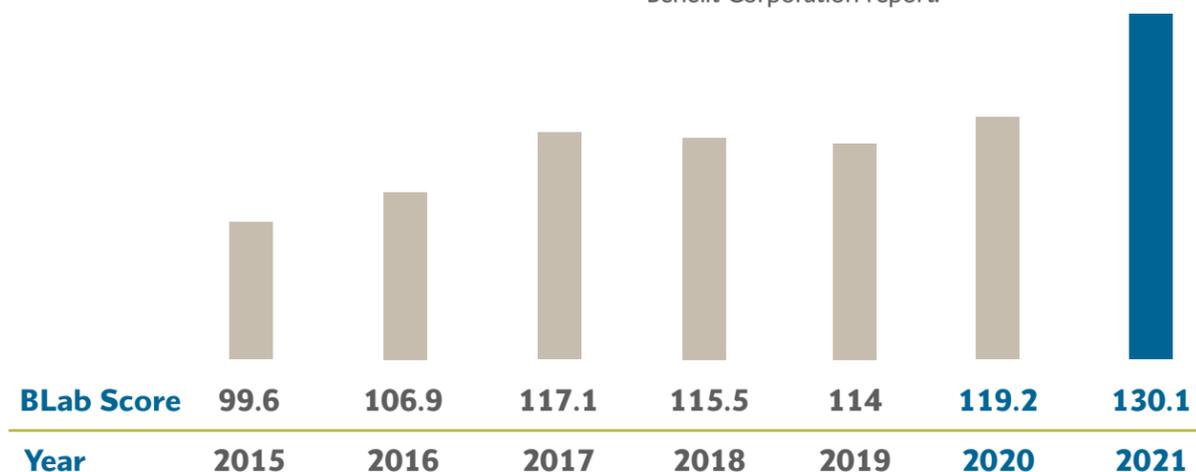
IMPACT REPORT

For the seventh consecutive year, we used the B Impact Assessment as the third-party standard for our benefit corporation report. It's a tool used by over 50,000 businesses around the world, and like us, it aims to continuously improve. We are using Version 6 of the B Impact Assessment.

Note: There is no material connection between Mazzetti and the B Impact Assessment or the organization that established it. Although Mazzetti uses the B Impact Assessment to measure our progress each year, we have not undergone third-party validation of our reporting due to the cost of B Corp certification. We are a benefit corporation by law in the state of California, a designation that awards us additional points in the B Impact Assessment.

TOTAL SCORE

The median score for other businesses in the same sector is 81.3. An overall score of 80 or above qualifies for B Corp certification. For 2021, we scored 130.1. The Mazzetti Board of Directors reviewed and approved this 2021 Benefit Corporation report.



IMPACT ASSESSMENT SCORECARD

OVERALL RATING	MAZZETTI	SAME SECTOR	MAX SCORE	PREVIOUS YEAR COMPARISON
TOTAL SCORE (2021)	130.1	81.3	200.0	⬆️
Governance	20.1	8.1	25	
Mission & Engagement	4.3	1.9	6.0	⬆️
Ethics & Transparency	5.8	3.6	9.0	
+Mission Locked	10	-	10	
Workers	69.9	35.1	80	
Financial Security	19	8.5	20	
Health, Wellness, & Safety	7.5	6.1	12	
Career Development	6.1	4.6	8	
Engagement & Satisfaction	7.1	4.9	10	⬆️
++Worker Owned	30	-	30	
Community	19.3	14.8	50	
Diversity, Equity, & Inclusion	7.5	4.7	15	⬆️
Economic Impact	4.3	7.1	15	
Civic Engagement & Giving	4.1	2.5	12	⬆️
Supply Chain Management	1.9	1.1	8	
Environment	18.3	19	110	
Environmental Management	6.1	2	7	⬆️
Air & Climate	5.0	0.8	7	⬆️
Water	0.3	0	2	
Land & Life	1.7	1.8	4	⬆️
Renewable or Cleaner Energy	2.3	-	30	New in 2021
Resource Conservative	1.3	-	30	New in 2021
Environmental Education	1.3	-	30	New in 2021
Customers	2.5	1.6	5	
Customer Stewardship	1.6	2.7	5	⬆️

+ Recognizes corporate forms and amendments that preserve mission and/or considers stakeholders regardless of company ownership.

++ Recognizes distributive ownership models that empower employees, including cooperatives and ESOPs.

IMPACT ASSESSMENT UNWRAPPED

From our efforts to improve our own workplace environments, to the impact of our project work, to our local and national global health efforts – we’re committed to making progress.

GOVERNANCE

The Governance Impact Area evaluates your company’s overall mission, ethics, accountability, and transparency through topics such as integration of social and environmental goals in employees’ performance evaluation, impact reporting and transparency, stakeholder engagement, and more.

Our score slightly increased in the ‘Mission and Engagement’ category. After several internal stakeholder brainstorming and work sessions, we launched our ‘M’ brand — an evolution of the previous foursight brand with a heightened emphasis on creating healthy and resilient environments (i.e., why we exist!). This is reflective of our overall mission, positively impacting society and the physical environment. Since we are employee-owned, we continue to prioritize transparency of goals and reporting, company-wide.

In 2020, we started the decarb:healthcare movement! This work is primarily in fulfillment of a California Energy Commission (CEC) grant — the primary objective to deliver THE guide for decarbonizing hospitals in California. (Naturally, the Mazzetti Team sees a broader implication opportunity, in the creation of this guide and online community.) Towards this effort, in 2021, we hosted a series of free, virtual workshops on various, mostly technical, decarbonization topics. This work directly aligns with our company vision and mission.

Internally, we conducted salary transparency reviews, using industry-driven salary curves for all Mazzetti employees. Employees and their supervisors engaged in, sometimes difficult, conversations, with the intent to achieve more compensation equity. As a result, we feel we’re not only addressing inequities (perceived or otherwise) but also strengthening trust throughout the organization re compensation.

FOLLOW UP NOTE RE ETHICS FROM 2020

REPORT: The anti-corruption policy language will be re-incorporated into our Mazzetti Handbook by the end of April 2022.

WORKERS

The Workers Impact Area evaluates your company’s contribution to its employees’ financial, physical, professional, and social well-being through topics such as payment of a living wage, benefits, employee health and safety, professional development opportunities, and more.

Our score slightly increased in the ‘Engagement and Satisfaction’ category. 2021 was a difficult year for the general population – second year of Covid crisis, political partisanship, social inequities, and unrest... plenty of uncertainties. Mazzetti leadership, mindful of these very real and visible issues facing our country, strived to offer ample opportunities for our employees to connect as *people* (outside of project work). This included several clever virtual events from “Choose Your Own Wellness Adventure” to “Craft Cocktail Classes.” (See details in the ‘Impact Stories.’) Mazzetti leadership also extended COVID sick leave beyond federal requirements, to help minimize stress, particularly during the surges.

GALLOP EMPLOYEE SURVEY:

We exceeded our 90% goal by scoring 92% on the 2021 key questions: “I know what’s expected of me” and “I’ve had opportunities at work to learn and grow.”

COMMUNITY

The Community Impact Area evaluates your company’s contribution to the economic and social well-being of the communities in which it operates, through topics such as diversity and inclusion, job creation, civic engagement and philanthropy, supply chain management, and more.

Our score slightly increased in two categories: Diversity, Equity, Inclusion and Civic Engagement and Giving. 2021, in many ways, was a continued focus on social equity and awareness. Our DEIJ Committee continued to focus on:

- Awareness and Education – how to be good allies, understand other’s perspectives, listen to learn, and speak up
- Outreach and Pipeline – where we build new partnerships, offer internships, recruit, and hire
- Equity and Inclusivity – how we create equitable opportunities for our people and inclusive environments for all

(Specific DEIJ activities featured in the ‘Impact Stories.’)

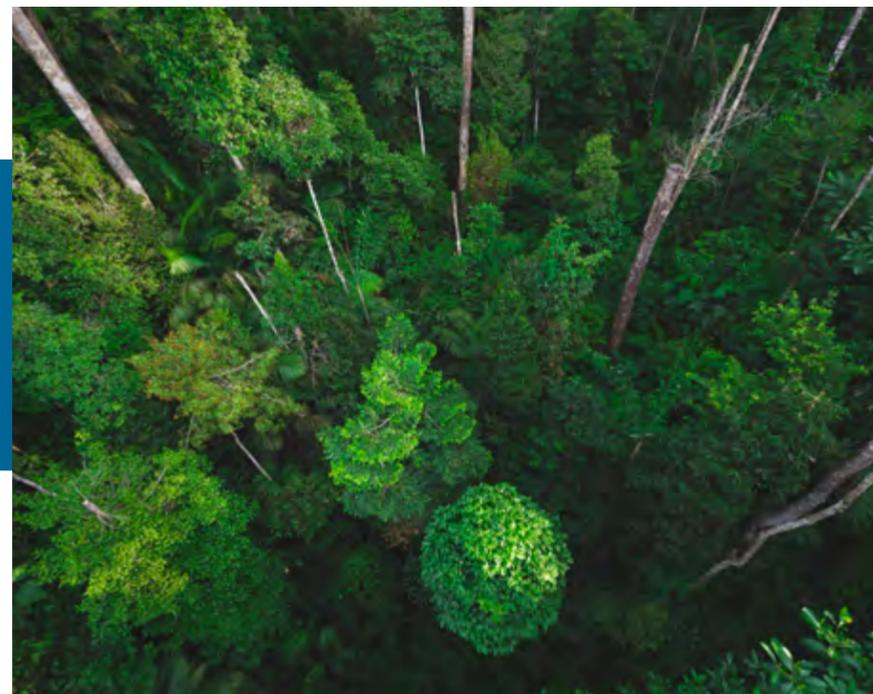
“BY THE NUMBERS”

In 2021, nearly 40% of our staff are women, of which, 60% are women in technical roles; 21% of our staff are minorities, of which, 92% are minorities in technical roles; management staff is comprised of 22% women and 11% veterans. We need to continue to focus on increasing our technical female leadership.

We had three successful internships in 2021, including one who was hired as a full-time employee in the fall and one who opted to extend his internship.

In lieu of holiday gifts, Mazzetti invested in a carbon removal project — a parcel of Southern Oregon forestland managed by [Green Diamond Resource Company](#). The project is enrolled in the California Air Resources Board Improved Forest Management protocol, demonstrating permanent and additional carbon removals. We assigned specific carbon offsets to select clients in appreciation for their business.

Perhaps (one of, if not the) greatest community ‘giving’ is in the form of knowledge sharing re sustainability (with a focus on Healthcare sustainability). More specifically, as conveners and facilitators, as researchers, as advisors, as designers, we prioritize our role (in our industry and greater global community) to urgently reduce and eliminate carbon emissions. Additionally, we continue to offer free tools (M+Energy, M+WasteCare) to help our clients and partners attain their sustainability goals. And, towards the end of 2021, a concept for a new tool, M+Carbon, started taking shape... The objective: to help organizations track, measure, reduce, and eliminate their respective CO2E (Carbon Dioxide Equivalent Emissions).



ENVIRONMENT

The Environment Impact Area evaluates your company's overall environmental stewardship, including how the company manages general environmental impacts as well as specific topics like climate, water use and sustainability, and impacts on land and life.

This is not only at the core of what we do, but who we are, why we exist — to create healthier, enduring environments. This score increased in three of the four existing categories: Environmental Management, Air and Climate, and Land and Life. (NOTE: Three new categories were added in 2021; we'll have benchmarking in 2022.)

INTERNAL – Mazzetti's GHG Inventory for scopes 1 and 2 for years 2017 - 2020 is mostly completed. We prioritized (the start) of educating more Mazzetti-ites re greenhouse gases, defining scopes 1, 2, 3 emissions and the respective inventory of each. Additional training and resources are available for further consumption. (Again, we feel this is important toward living our vision and delivering specific benefit to our clients and the greater community.)

EXTERNAL – 2021 started with our decarb:healthcare workshops (as part of fulfilling a CEC grant, explained more in the 'Governance' section). By the end of May, we started receiving RFPs related to decarbonization planning, energy master planning, climate resiliency planning, GHG accounting, and similar variations. The NEED for dedicated Climate Change/Action Consulting quickly arose. In addition to tackling specific client projects, we created an [explainer video](#) re scopes 1, 2, 3, emissions for general public consumption. As we closed 2021, we continued to receive client requests and RFPs, primarily in Healthcare, and we feel primed to serve as their strategic consultants, grounded in engineering.



CUSTOMERS

The Customers Impact Area evaluates the value that your company creates for your direct customers and the consumers of your products or services through topics such as ethical and positive marketing, warranty and quality assurance of products and services, data privacy, data security, and more.

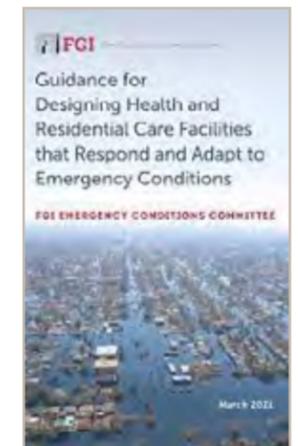
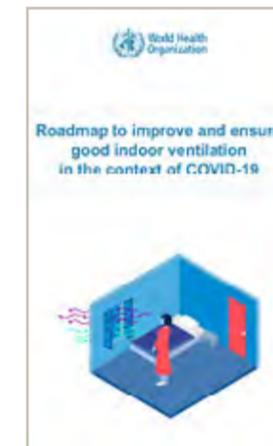
Our score slightly increased in Customer Stewardship. Now more than ever, we strive for our client deliverables to be aligned with healthier, enduring environments. In 2021, our collective climate crisis reality was heightened; thus, in 2021 we set a goal to deliver ALL design projects 10% better than the energy code. Admittedly, we were far from perfect... A significant aspect of this challenge is the human aspect. In 2021, we had more opportunities to help influence and guide clients toward healthier, more enduring

environments, through carefully crafted stakeholder engagement sessions, often utilizing human-centered design tools. (Clients included: AcademyHealth, Stanford Health Care, Lucile Packard Children's Hospital, Valley Children's, and more on the horizon).

Additionally, our (Walt's) relationship with the National Academy of Medicine increased, as he was asked to join the Steering Committee for the Action Collaborative on Decarbonizing the U.S. Health Sector. This participation further amplifies our ability to positively impact our direct and indirect Healthcare "customers."

In 2021, we continued to contribute thought leadership in prestigious, credible design guides:

- WHO – roadmap to improve and ensure good indoor ventilation in the context of COVID-19
- ASHRAE Position Document on Infectious Aerosols – revisions
- FGI Emergency Conditions – Guidance for Designing Health and Residential Care Facilities that Respond and Adapt to Emergency Conditions



OUR IMPACT STORIES

In 2021, we heightened our focus on stewarding healthier environments for each other, our clients, and our physical environment.



“Meaningful work – that’s what we do. It’s what Mazzetti is all about – doing work that has an impact.” – SHANNON BUNSEN

“M” BRAND

In February 2021, we launched our ‘M’ brand — an evolution of the previous foursight brand with a heightened emphasis on our healthy and resilient environments. This is reflective of our overall mission (positively) impacting society and the physical environment. At the highest level, our evolved ‘M’ brand represents a heightened focus on the future and health (for both people and our environment). It represents our “culture of caring”—about our clients, our communities, our colleagues, our physical environment, and our need for diverse thinking and perspectives to drive the best solutions.

Under this umbrella, the ‘M’ brand is purposely open to be more flexible and relevant for the circumstance (and client). The open right-side of the ‘M’ is symbolic of the future—being open to new (and better) ideas, acknowledging the future of unknowns and our own (humble & optimistic) role in creating that future.

The people of Mazzetti, i.e., shareholders, helped shape this evolved identity and benefit we provide to the world. In many ways our shareholders are **shared**holders — holding shared responsibility to make the vision real, delivering on the benefit daily. View the brand launch notification [here](#).



“We’re creating healthier spaces because we care about environments, and we want to see this world change.”
– Lauren Schwade



“We are committed to lowering the impact of the buildings we create.” – Bethany Beers



“We’re looking at future technology, future codes, working with the codes, to bring clients the future.”
– Jesse Avery



“The new logo represents a new focus on moving forward together.” – Sarah Jane Madole



“The new logo represents the future, the spaces that we help create, and the people who will be impacted by those spaces. The ‘M’ is forward thinking, open to the future.” – Ryan Stromquist



“Envision better futures. Remove obstacles to better futures. Help clients see a path to better futures.”
– Walt Vernon



WOMEN AT MAZZETTI COMMITTEE - SUMMARY

The Women@Mazzetti (W@M) committee began in 2018 as an employee support group. The objective — to help transform Mazzetti into the most women-friendly engineering firm within the AEC industry by improving awareness on gender diversity and equity. In 2021, the W@M committee continued focusing on leadership mentoring, allyship training, and highlighting the amazing women within Mazzetti.

Originally starting as a mentorship program focused on women in leadership, the idea of a company-wide mentorship program quickly expanded. We started gaining interest in the mentorship program by hosting a cross-office “Meet+Greet” session in June. This was a great opportunity for veteran and rookie Mazzetti-ites to get to know one another on a deeper level: understanding people’s career journey, expertise, goals, and personal interests. Several more “Meet+Greet” sessions were held during October to help connect Mazzetti-ites who were interested in the following mentorship topics: MEPT engineering, lighting design, healthcare design, project management, marketing and business development, commissioning and sustainability, early career development, leadership, and BIM/VDC, to help spur more fruitful connections

among Mazzetti-ites that will be beneficial for mentorship and professional development. By the end of 2021, a company-wide mentorship program was successfully launched with the W@M committee helping to match mentors and mentees. The voluntary mentorships will last for a year with a follow-up at the half-year mark. We have already heard some initial feedback from Mazzetti-ites about enjoying their new mentorships.

With the creation of the Mazzetti Diversity, Equity, Inclusion & Justice (DEIJ) committee last year, the W@M team has enjoyed working with our sister committee this year. In July, the W@M and DEIJ committees hosted a company-wide interactive discussion on re-thinking how to integrate equitable opportunities for Mazzetti-ites to be more involved with the company’s project interviewing process. Overall feedback included better emphasis on including the whole project team to be involved with the project interview process and providing younger engineers with more training on how to approach project pursuits and interviews, such as mock interviews.

In September 2021, the committees collaborated to bring in Ellie Krug, a transgender woman and accomplished lawyer and public speaker to speak to the company on diversity and inclusion with her “Gray Area Thinking” presentation. (More on this story in the DEIJ summary.)

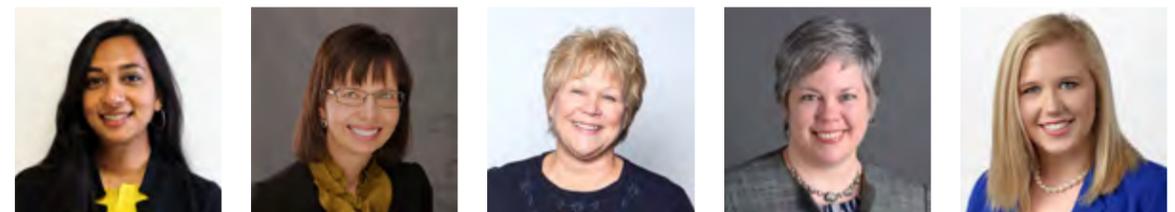


With a monetary budget, this was W@M’s first year to donate contributions to a women-led STEM nonprofit organization. This year, we donated \$1000 to the local Society of Women Engineers Golden Gate professional section for their high school scholarship program. This contribution went towards a scholarship to be awarded to a high school or community college student of female gender or another underrepresented minority gender, who is intending to attend a four-year university with a declared major in engineering.

We look forward to finding and supporting more organizations across the country that are supporting women and gender equity.

As always, the W@M committee co-chairs enjoy writing the monthly spotlights, interviewing, and highlighting a female employee at Mazzetti. This year, we started engaging other committee members and Mazzetti-ites to assist with the interviewing and writing process of these spotlights. Many of them have enjoyed this experience to learn more about the amazing stories and journeys our female Mazzetti-ites have to share. This year’s spotlights are available on the Women@Mazzetti page on Mazzetti’s website.

With the mentorship program in full swing, the W@M committee is excited to focus on more allyship training, outreach events, and collaboration with the DEIJ committee for 2022!



OUR IMPACT STORIES

DIVERSITY EQUITY INCLUSION JUSTICE COMMITTEE - SUMMARY

In 2021, the DEIJ committee continued to meet monthly, continuing to focus on:

- Awareness and Education – how to be good allies, understand other’s perspectives, listen to learn, and speak up

In conjunction with the Women at Mazzetti committee, we hosted a presentation/training called “Gray Area Thinking. The speaker/trainer, Ellie Krug, is a transgender female attorney – she facilitated an engaging and informative session illustrating instances of “grouping and labeling,” which can lead to both unconscious and conscious bias. She explained, “Humans are wired to ‘group’ and ‘label’ other humans—it’s part of our evolutionary DNA and how we’ve been able to get to where we are today as a species. At the same time, it’s what we do with that grouping and labeling that can set the table for much broader inclusivity... Humans are hard-wired for empathy; it’s just that most of us don’t know how to employ that empathy due to fear, inattention, or habituation.”

We are planning to bring her back in 2022 for additional training on Allyship.

- Outreach and Pipeline – where we build new partnerships, offer internships, recruit, and hire – In 2021 we started externally reporting our diversity numbers and have since extended our recruitment efforts to target specific underrepresented groups, including ethnic minorities and females.
- Equity and Inclusivity – how we create equitable opportunities for our people and inclusive environments for all.

In the summer of 2021, we hosted an internal education session re ‘Equity vs. Equality’ to illustrate the difference and apply to the exercise of identifying staff for project interviews and teams. After brief education, we split up into breakout rooms to ideate solutions for: How might we ensure that project and interview staffing is inclusive and equitable? Ideas included better knowledge/info management of everyone’s expertise inside Mazzetti in addition to respective capacity; utilizing a diverse selection committee (as a more objective, third-party); an outlet for individuals to request certain project per his/her expertise. More work to be done in 2022, including, hiring a Knowledge Manager to help this cause.



Ellie Krug - “Grey Area Thinking”

A NOTE FROM WALT...

After the George Floyd killing, I began meeting with the Black employees of the firm (they taught me to use the word ‘Black,’ and not ‘African American’). Two years later, we are still meeting monthly. They have brought me ideas that not only helped us to improve our diversity, but that have also made us a better company. Among other things, it gives me insight into the reality of the lives of real employees at Mazzetti; how messages are heard, how are we doing etc. They pull no punches, and they have been extremely helpful to me to simply SEE better what is going on, and how to help our people. I have promised to help them with any mentoring, and advice, anything I can do to support their growth. Few have taken me up on it, but I do think it has helped us to be a better place for all people.

EMPLOYEE APPRECIATION COMMITTEE - SUMMARY

The Employee Appreciation Committee (EAC) started at Mazzetti many years ago to encourage more opportunities to connect with each other, outside of project work, and have some fun! (e.g., in-office happy hours and events welcome to everyone). In 2021, as we continued working from home, the goal of the EAC was to find new and fun ways for people to spend time together outside of work hours even though many of us still weren’t able to be together in person.

In San Francisco, we started the year by hosting a virtual cocktail-making class. Hosted by a local bartender from San Francisco, we learned how to make two different flavored simple syrups and then incorporate them into the recipe for a basic cocktail. The event was such a hit that we decided to try hosting more cocktail hours, in which, Mazzetti employees instructed how to make their drink of choice. People were welcome to join in for the cocktail making or just to watch and chat with everyone else on Zoom.

In May, our office tapped into our creative side and did a sculpting night with pottery kits. Everyone that participated was mailed a kit with air-dry clay, sculpting tools, and paint to help them create a pottery masterpiece. It was a great activity for parents to get their kids involved too. The results were impressive – we had people make bowls, jewelry trays and holders, vases, and all sorts of sculptures!

In November, we did Moss Wall Art kits from a company found on Etsy called Naturely Box. Using glue guns, we carefully fixed several different types of moss into a wooden frame to create our own unique “moss-terpieces!” As we worked on our frames, we did trivia with the founder of the company where we learned about moss and all the benefits it can have for humans. Everyone’s hands were stained green by the end of the activity, but it was a fun and relaxing time for all!

Finally, to close out the year, we hosted an in-person holiday happy hour back in the office in December so people could reconnect and see each other off of Zoom. We resumed our office tradition of a white elephant gift exchange, where the gifts ranged from cookies to Lego sets to cookbooks and socks. After 21 months being out of the office, it was exciting to see people in person and pile into a conference room together (all vaccinated and masked of course) for a little competitive fun.

The EAC looks forward to planning more fun events like this in 2022 and increasing interaction between all the offices so Mazzetti employees can get to know one another and have fun together outside of work! #OneMazzetti



CONTINUING OUR LEGACY OF PUSHING THE CODES (FOR HEALTHIER, ENDURING ENVIRONMENTS)

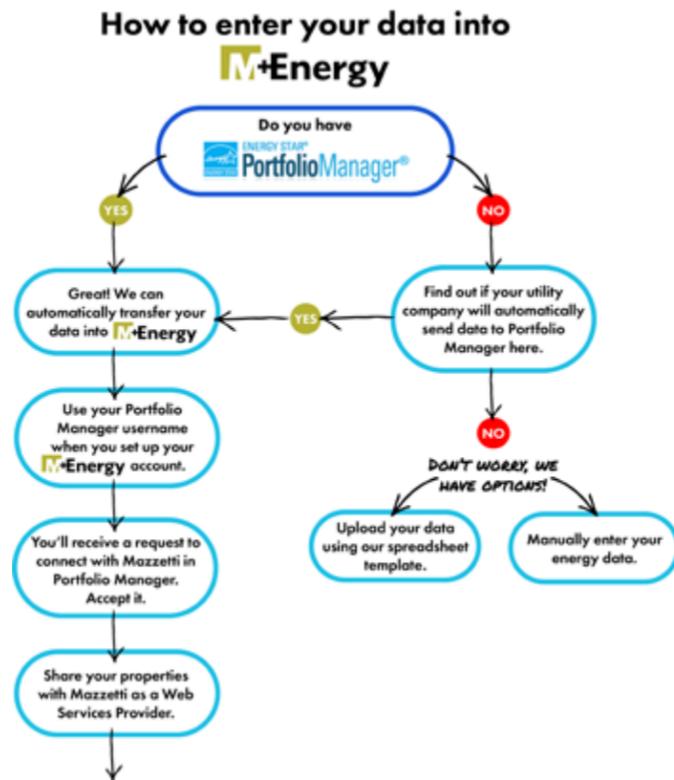
IFHE ENERGY AWARDS

Mazzetti is spearheading a global healthcare energy awards program...

The International Federation for Healthcare Engineering (IFHE) is calling on the global healthcare system to reduce its greenhouse gas emissions by 50% by 2030, and 100% by 2050 (zero emissions). (Walt serves on the executive committee of the U.S. constituent of IFHE.)

Mazzetti, to help support this call-to-action, is helping IFHE with a new Energy Reduction Awards program. This program recognizes any healthcare building in the world for a minimum 5% energy reduction over a two-year program. At the 2022 IFHE Congress in Toronto, the IFHE will recognize the healthcare building that reduces the most in each member country; it will recognize the country whose healthcare buildings reduce the most in the aggregate; and it will recognize the healthcare building who reduces energy consumption more than any others in the world.

This program compliments the many other energy tracking and recognition programs already in existence, so that no extra time or effort should be required. Mazzetti's own M+Energy is the tool we've provided for easy tracking and participation in the awards program.



ELIMINATING HOT WATER

Mazzetti Chief Plumbing Designer Brian Hageman spearheaded research and authored the findings relating to eliminating hot water for handwashing in Healthcare. Over the last several years, experts in infection control have been uprooting old assumptions that hot water is an essential component in handwashing. The World Health Organization (WHO) says, "Apart from the issue of skin tolerance and level of comfort, water temperature does not appear to be a critical factor for microbial removal from hands being washed." Water in the temperature range we can tolerate is not hot enough to kill bacteria — it would have to be scalding hot before its temperature could improve upon the simple act of scrubbing with soap.

Five reasons to eliminate hot water handwashing:

1. Hot water is not required for effective handwashing.
2. It is arguably an unnecessary expense.
3. It wastes energy.
4. It presents potential risks for patients and healthcare providers.
5. There are cheaper and safer design options for water systems that are as effective for handwashing.

In 2021, the Academy of Architecture for Health Journal [published his article](#).

Eliminating hot water handwashing: Five reasons to act

Brian Hageman, Associate Principal MAZZETTI



ABOUT BRIAN HAGEMAN:

He has dedicated his career to truly leaving a lasting, positive impact in the world—from tackling legionella prevention in piping design, to pioneering more sustainable & cost-effective single-temp handwashing design, to pandemic-responsive solutions re accommodating increased medical gas supply. In 2021 he was appointed to the prestigious International Plumbing Code Technical Committee (IPC).

PLUGLOAD MONITORING CHAPTER X
Finally right-sizing electrical systems in
Healthcare per demand (even during a surge)

This story has been literally years in the making. It's been a quest to illuminate truth. It's about "right-sizing" the electrical systems appropriate to actual electrical demand. As you may recall, this research (Mazzetti has been spearheading), is meant to illuminate the ACTUAL peak electrical demand when a hospital is stressed to the max... Queue a once-in-a-century pandemic. And leave it to Mazzetti to see and ACT on this opportunity.

Conclusions:

- A. Yes, demand factors need to be updated.
- B. One year of data is not necessary for receptacle loads.
- C. Loads do not change, except in very few circumstances, in pandemic.
- D. Loads do not change during extended outage (but better data could be useful)

NFPA Action:

- A. Applying to "patient care areas" only
- B. No to cord-connected equipment
- C. To be included in Chapter #2

Next Steps: More help is needed for further change, including another study to answer the cord-connected equipment question and applicability to other departments question. Mazzetti will continue to pursue this work, partnering with the greater Healthcare community to make it happen.

"If you want to go fast, go alone. If you want to go far, go together." - African Proverb

Fire Protection Research Foundation, the research affiliate of NFPA, published the report in February 2022. [Download here.](#)



DECARBONIZING HEALTHCARE GUIDEBOOK

In 2021, Mazzetti launched the decarb:healthcare workshops series 1. (This is in fulfillment of the California Energy Commission's grant to create THE Guidebook for decarbonizing hospitals, starting in California (with implications nationally and even globally). The Guidebook will serve as a reference tool for hospital owners, operators, designers, architects, engineers, and regulators to understand the benefits of using advanced technologies and designs to minimize natural gas use, reduce GHG emissions, reduce healthcare costs and provide benefits for investor-owned utility (IOU) ratepayers.

The objectives for the workshops, towards building content for the Guidebook: (1) Determine barriers to reducing natural gas consumption in California hospitals; (2) Generate additional ideas for potential natural gas reduction technologies; and (3) Develop community engagement strategies to encourage use of the Guidebook. The direct benefit of this work is creating zero-carbon, healthier,

enduring facilities to deliver quality health care. Over the course of eight workshops (plus a ninth bonus workshop featuring client decarb journeys), we convened meaningful knowledge sharing re: reduction strategies, addressing the natural gas boiler elephant, redesigning domestic hot water systems, decarbonization of humidification & sterilization, source power outside the grid, addressing the role of code and code reform, funding, and financing strategies.

"Best program I've ever been a part of. I got so much out of it. Can't stop gushing about it."

- Prominent Participant

The follow-up (bonus) workshop featured a panel of esteemed healthcare professionals sharing the challenges (and triumphs) their organizations face on the path to reducing their natural gas consumption and becoming carbon neutral.



SEXTANT FOUNDATION

“REIMAGINING THE NICU”

After a somewhat abrupt and traumatizing experience, parents welcome their new child into the world. This child will require additional care in the Neonatal Intensive Care Unit (NICU).

For the next four weeks, this family is on the NICU journey, experiencing the spectrum of emotions and needs—desiring privacy, desiring community, desiring education... Clinicians move in and out of open-bay rooms to private rooms, both with varying benefits and challenges in terms of providing care.

At the end of the four weeks, baby has achieved critical milestones to transition home. And now, after weeks of adjusting to this NICU life (and starting to almost feel “normal”), becoming well-acquainted (and friends) with many of the clinical staff, the parents feel a rush of panic at the thought of going home—no clinicians, no beeping monitors to alert potential health events... No “safety nets” at home. How can we “reimagine” the NICU to help families more confidently and comfortably transition from NICU to home?

This important question and more was dissected over the course of the Reimagining the NICU Workshop in early 2021, sponsored/supported by FGI, Catalysis, and the Gravens Conference.

In March 2021, Sextant convened more than 120 clinicians, architects, engineers, architecture students, designers, and parents to understand the challenges faced by clinicians and families in the NICU. We ideated, prototyped (see image above), and tested solutions to those challenges. In fact, due to the successful workshop, the Gravens Conference planning team requested another—Reimagining NICU 2.0 Workshop,



completed shortly after. The solutions identified will be presented at the next Gravens Conference and, ultimately, considered for evolving Design Standards for Advanced Neonatal Care.

SEXTANT FEATURED PROJECT: COREDA

Community Relief and Development Action (COREDA) runs an inclusive and holistic education and empowerment program in Cameroon (Central Africa). They serve women and children affected directly by HIV/AIDS, poverty, and sociopolitical unrest. Their history includes community programs for primary education, climate smart agriculture, computer literacy, community health outreach, and water, sanitation, and hygiene. Their inclusive and participatory approach to development drives their initiatives, with beneficiaries involved in project conception, implementation, and evaluation.

Solar Electrification: COREDA's community lacks reliable and affordable energy access. They seek to install a solar and battery backup system at the women and children's empowerment center in Tiko. This system will not only provide a reliable source of energy, but also reduce operating costs, allow for evening and digital learning, and teach the children about alternative energy.

NOTE: Due to continuing Covid restrictions during 2021, in-person projects & volunteer opportunities were limited.



VOLUNTEER SPOTLIGHT

In 2020, Troy Savage, Associate and Project Manager at Mazzetti, volunteered with Sextant (in collaboration with Project HOPE) re Hurricane Maria relief in Puerto Rico. The storm cut power and refrigeration for critical medications. Project goal — to install solar and battery power at hospitals across the island to help with relief efforts and prevent recurring power issues. Troy noted,

“Working on solar projects was something [I] envisioned doing since joining Mazzetti.”

He saw Sextant's volunteer effort as an opportunity and great experience that aligned with his passions. Overall, working on the project provided valuable technical experience for Troy.

“[I] enjoyed getting to install solar panels, work on the rooftop, and collaborate with the other volunteers, Jeff and Angelica. After a long day of work, it was rewarding to see that the power was flowing.”

Troy's message to prospective Sextant volunteers...

“It's an opportunity to learn and be part of an organization that is making an important difference through implementing valuable clean energy projects. It's a means to live out a mission in ways that will be helpful for people. It's a way to apply what we learn in working in healthcare and in clean energy.”

We are so grateful to have Troy contribute to Sextant's mission.



AREAS FOR IMPROVEMENT

IMPACT AREA	IMPACT TOPIC	DESCRIPTION	DESIRED ACTIONS
Governance	Mission & Engagement	Management of Material Social and Environmental Issues	Conduct a materiality assessment of our company using stakeholder engagement mechanisms or research. Identify and measure metrics based on the results of the materiality assessment. Set performance targets for all identified material issues and measurements. Measure the material social and environmental outcomes produced by our performance on our KPIs over time.
Governance	Ethics & Transparency	Conflict of Interest Questionnaire	Ensure all Board members and officers complete an annual conflict of interest questionnaire.
Governance	Ethics & Transparency	Code of Ethics	Ensure clarity and thoroughness noting: Prohibition of bribes in any form, including kickbacks or gifts, on any portion of contract payments or soft dollar practices. Ensure formal oversight policy covering direct or indirect political contributions, charitable donations, and sponsorships. Publicly disclose financial and in-kind contributions to political parties, politicians, lobby groups, charitable organizations, and advocacy groups.
Governance	Ethics & Transparency	Instruction on Code of Ethics	Instruct the Board of Directors on the Code at least annually.
Governance	Ethics & Transparency	Anti-Corruption Practices	Review and incorporate relevant practices per the B Lab Assessment.

IMPACT AREA	IMPACT TOPIC	DESCRIPTION	DESIRED ACTIONS
Governance	Ethics & Transparency	Financial Transparency with Employees	Work with the Finance Committee to identify and implement appropriate practices.
Workers	Health, Wellness, & Safety	Healthcare Plan	Review and incorporate relevant practices per the B Lab Assessment.
Workers	Health, Wellness, & Safety	Indoor Air Quality Monitoring	Monitor indoor environmental air quality in offices and brainstorm opportunities for doing this in employee home offices.
Environment	Air & Climate	Monitoring Energy Usage	Review and incorporate relevant practices per the B Lab Assessment.
Environment	Air & Climate	Low Impact Renewable Energy Use	Review and incorporate relevant practices per the B Lab Assessment.
Environment	Water	Monitoring and Managing Water Use	Review and incorporate relevant practices per the B Lab Assessment.
Environment	Water	Water Conservation Practices	Research how we might help improve water conservation practices in employee home offices.
Environment	Land & Life	Monitoring and Reporting Non-hazardous Waste	Review and incorporate relevant practices per the B Lab Assessment.
Environment	Land & Life	Hazardous Waste Disposal	Verify how electronic equipment is being disposed.

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