



LVI
ASSOCIATES

The Case for Sustainable Business Practice

ENGINEERING A SUSTAINABLE FUTURE

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Introduction

What if every business on earth did something to help?

Climate change is a threat to our planet as we know it. Businesses need to play a pivotal role in taking measurable, decisive action, and enacting systemic change to mitigate climate challenges. Firms may have to grapple with a cluster of factors, such as meeting low-carbon targets, assessing systems and heating, decarbonizing power systems, to fully equipping their operations to run on renewable energy.

There is no silver bullet to overcome the effects of climate change, but by advocating for change and innovating business practices, a transformational future could be within our grasp. After all, the business case for climate action is abundantly clear: thirty-five countries experienced economic growth in the past fifteen years by reducing their emissions. What's more, bold climate choices could deliver \$26 trillion in economic benefit by 2030 and create 65 million new low-carbon jobs, as forecasted by the New Climate Economy. This begs the question, has the hiring landscape also unequivocally changed to meet increasing sustainability goals?

In our latest report, **The Case for Sustainable Business Practice**, we offer a detailed analysis of the engineering and infrastructure industry; a crucial vertical that has the capacity to fuse innovation with a planet-first approach. Take a deep dive to discover what sustainable advancements are flowing throughout engineering, how sector professionals responded to our survey series, and hear first-hand from our talent specialists about their thoughts on hiring for a sustainable-centric future.

A New Dawn for Engineering

Infrastructure and construction are huge emitters of greenhouse gases (GHG). From the creation of buildings to power plants, approximately 70% of all greenhouse gas emissions can be linked to infrastructure and construction. When considering air travel, this sector is responsible for 2.5% of global carbon emissions. At the current rate, electrical emissions are projected to increase by 35% in 2035 – around 13 times more energy consumed than in 1950. Cement manufacturing, which is the biggest carbon footprint of any man-made material, produces 2.2bn tonnes of CO₂ every year, making up 8% of all CO₂ emissions.

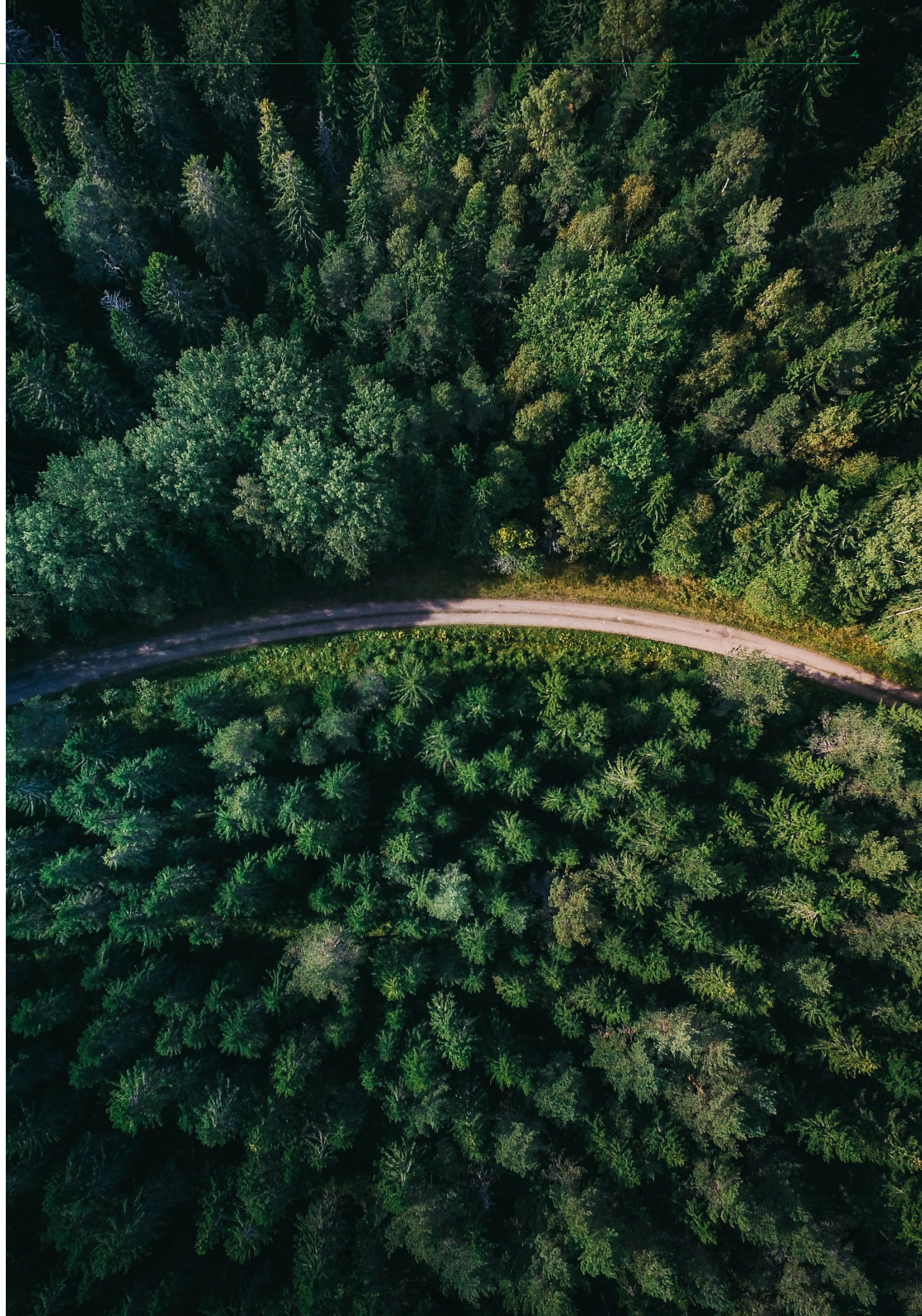


Auditing the Carbon Footprint

Aggregating the data down to an industry-specific level, in infrastructure and construction, operational emissions (domestic energy usages such as light and heat) are responsible for 28%. An additional 11% is liable in embodied carbon emissions, prevalent in the materials and production process. But the issue does not primarily lie here, during construction around 15% of building materials end up in landfill. In Europe alone, construction and demolition waste are accountable for almost a third of total waste by weight. As the industry is being pushed into the spotlight and comes under increasing scrutiny, it's clear that when examining the whole lifecycle from manufacturing, materials, to construction, the sustainable cracks are beginning to show.

One thing is for certain; a considerable pitfall of infrastructure and construction is notable in their energy-intensive materials, production, and consumption. Despite these significant caveats, companies should strive for a sustainable mandate as opportunity abounds in a net-zero future. To combat these sector challenges and up the ante on decarbonization strategies, organizations might look firstly, to meticulously audit their carbon footprint as a tool to shrink carbon emissions. Secondly, to pivot and adjust their infrastructures, which might include transport, water supplies, or energy systems, to be more resilient against severe weather conditions compounded by global warming – this is a real chance for seismic impact.

Addressing and measuring carbon emissions offers a myriad of benefits. From encouraging greater social responsibility, staying ahead of stringent regulations, to stimulating job growth and investment opportunities, there is a confluence of factors that can help boost a corporations environmental, social, and governance (ESG) credentials. Speaking to **Elaine Pang**, Technical Leader – Integrated Water at Cardno, she clarifies that opportunities are plentiful if one integrates sustainability into a core tenet of their organization because, “there is a corporate focus to demonstrate sustainable performance, which attracts investments. Entities such as SASB and TCFD have led the way for responsible reporting.” Consequently, as markets continue to evolve and morph, businesses that fail to manage their environmental impact will certainly get left behind, not only by a damaged reputation, but by their stock valuation across the globe – including how they present research and develop low-carbon emissions solutions.



Companies Leading the Charge

But it's not all doom and gloom - positive sustainable momentum is cascading down the engineering and infrastructure discipline, transforming materials into planet-friendly alternatives, decarbonizing industrial processes, and digital innovations are helping to fuel change.

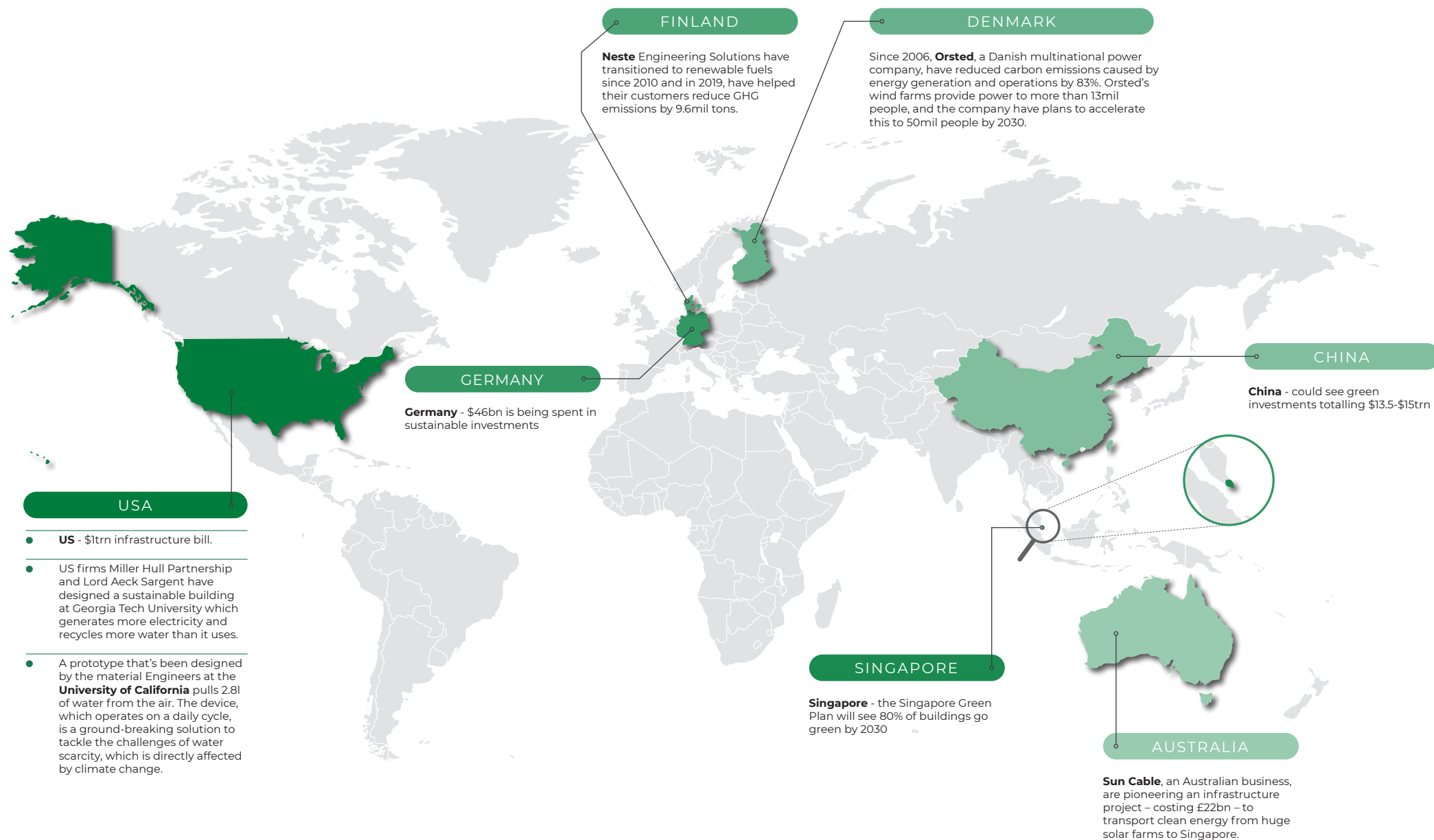
In the US, monetary support is being allocated to the sector in the form of a \$1trn infrastructure bill, which would see an improvement in electric power grids, a boost in traffic safety, an upgrade in decentralized wastewater systems, amongst others. Glancing across to China, the country's commitment to climate reduction and carbon neutrality by 2060 could see total expenditures of around \$13.5-\$15trn in green technology investments, lowering fossil fuel consumption, and reducing dependency on non-renewables. In Germany, \$46bn is being spent on sustainable investments in electric vehicles, green hydrogen, and renewable energy.

Within infrastructure, arguably a pivotal process is in green building materials, a crucial facet with a market size value worth a staggering \$653bn by 2028. Capital benefits aside, the innovations within this space are exciting. To draw on an example, corporations can switch to green construction materials, such as recycled steel, repurposed concrete, or structurally integral timber, and replace felled trees for a low-carbon

alternative. In comparison, back in Sweden 2020, the commercial production of steel using hydrogen and replacing fossil fuels was trialled – a major development to reduce industrial emissions. The opportunities with energy-efficient materials are widespread and businesses can provide value-add internally, by saving costs and future-proofing long-term objectives, but also externally, by genuinely strengthening their societal impact and ethically meeting their mission statements. **Elaine Pang** further highlights that organizations are working hard to garner industry recognition, “with many using ISCA, or similar certification schemes, to prove their value. They could also map activities against the SDGs to understand their current status (performance and achievements) and identify priorities for improvements.”



Sustainable Spotlight Worldwide



A Concrete Case for Digitalization

With the rise of Industry 4.0, the advancement of digital transformation such as big data, blockchain, and cloud computing, are helping craft a world that aligns human ingenuity with technology to solve climate challenges.

Whilst strategies to attain net-zero targets tend to focus on decarbonization or upcycling/reusing materials, companies can use digital tools to extract carbon dioxide that's emitted in the industrial process – commonly referred to as carbon capture and storage (CCS). This emissions reduction technology, which captures, uses, and stores carbon underground in geological formations, is forecasted to play a fundamental role to tackle emissions and decarbonization targets, as 80% of global energy consumption currently relies on fossil fuels.

Digitalization and sustainability co-evolved simultaneously across many sectors, and from the onset of the global pandemic, arguably this has only accelerated. Although the latest developments might create their own set of risks, organizations could meet these challenges and market changes head on by leveraging emerging technologies. One example of this can be found in bioengineering. Today, businesses are opting for biodegradable packaging in a bid to reduce plastic pollution, but some are taking this further, by innovating down the food production chain. Bioengineering technology has the capacity to replace animals, plants, and materials, with an earth-friendly solution in the form of microorganisms. Although alarming at first as this branch of engineering upends conventional life as we know it, biotech has the possibility to be a catalyst for change and perhaps combat food system and agriculture problems, which are responsible for a whopping one-quarter of the world's greenhouse gas emissions.



Green Jobs: New Ways to Conduct Business

Essentially, green careers directly contribute to tackling climate change, but it's useful to define this through a twofold criterion. Firstly, individuals that can think strategically about ESG and understand the context overall, the policy advisors for example, fall into one category. **Elizabeth Pugh**, Principal Consultant at LVI Associates comments, "globally, we are seeing leading organizations put aside extra budget and create additional headcount for positions that include chief sustainability officers. These must-have individuals will sit within the c-suite and be responsible for addressing any environmental or social concerns that are happening in and out of the company." Secondly, experts with highly specialized and technical fluency in solar energy or green engineering for instance, exist in a separate category. But the two entities are not disparate. The only way to make progress is if it's made together, thus organizations might look to get a whole caliber of industry-leading talent onboard to ride out whatever challenges lie ahead.



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ELIZABETH PUGH
PRINCIPAL CONSULTANT
LVI ASSOCIATES

Sustainable Talent

The team at LVI Associates surveyed our global engineering and infrastructure network, post-COP26, and found that **76% of respondents reported that ESG is important when hunting for a new job.** Not only do businesses need to enact change for the environment, but also to keep attracting the very best of talent. And it's not just a hiring trend, it is the future. **Hanna Ito**, Vice President at LVI Associates explains, "these days, especially in a candidate-driven market, we're finding a lot more engineers feel compelled to make a change based on what a company has to offer and whether this aligns to their vision." If ESG is not at the heart of a business, mission-critical talent might not be around for when that sustainable ship eventually sets sail.

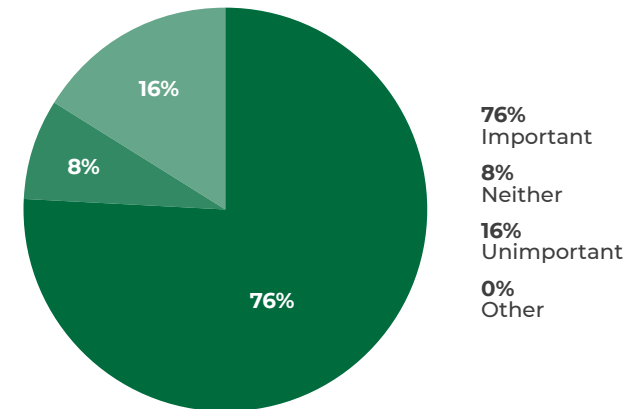
We are also interested in uncovering if the circular shift towards low-carbon green jobs is well underway and how far ESG skillsets are trickling out across different roles. When we asked our specialist community whether **they would consider switching roles if their company wasn't environmentally forward-thinking under half (47%) answered yes.** A key takeaway highlights that sustainability is top of the corporate agenda. For many, it could be a driving strategy or change in mindset, for others, it might be a social purpose – looking at the core business function to see if it affiliates to a planet-first ethos. When asked about how important environmental policies are to candidates applying for jobs, **Alex Hayes**, Director at LVI Associates shares his view, "whether it's a matter of supporting their values or

having sustainability as a topic on a CV, the candidates we speak to only want to join a company that have a specific focus on environmental policies."

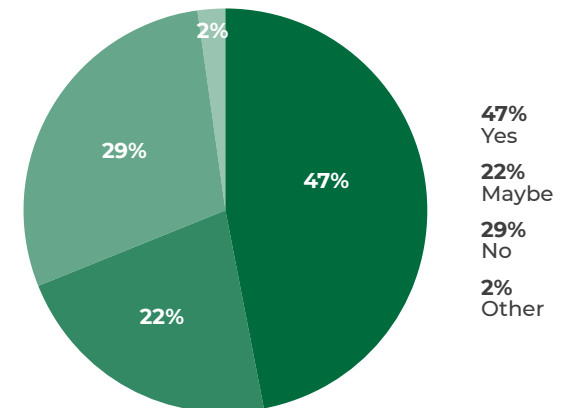
Our findings from both LinkedIn polls elucidate that a major pendulum shift in the talent community has already begun – with many placing environmental policies at the crux of their career-defining next steps. **Kayleigh Regan**, Associate Director - Head of Infrastructure at LVI Associates states, "global warming is a problem for all of us and for right now. If you work in an industry that does not produce a product that directly impacts the environment in a positive way, then looking into policies around sustainability and environmental factors can become the difference maker."

Over the next decade, as new climate policies and commitments develop, the specialist team at LVI Associates expect to see exponential growth in the creation of sustainable jobs, especially at all touch points of the engineering discipline. Momentum towards green careers is already taking shape and according to the World Economic Forum, renewables and environment jobs are estimated to outnumber oil and gas by 2023 in the US. In the Philippines, 350,000 renewable energy jobs could be developed by 2030 and ocean energy could create 1.2mil European jobs by 2050. One thing is for certain though, businesses are only as strong as the workforce, and with the unique sentiments of workers dynamically changing, talent will be the kingmaker to push the dial on ESG.

in Infrastructure & engineering professionals, how important is ESG when looking for a new role?



in Would you consider switching roles if your company wasn't environmentally forward-thinking?



Conclusion

There are many industry challenges to prioritizing sustainability and ultimately striving to combat the climate crisis. In many ways, challenges can be an enabler for opportunity – the creation of more ESG and/or CSR positions emerging on the horizon, coupled with a need to sustainably transform business models as an avenue for growth, will certainly set the cornerstone for businesses in the near future, and the world beyond.

With this in mind, transformations are turning the tide on how the engineering and infrastructure industry can put a sustainable foot forward and contribute to net-zero policies. No doubt talented engineering professionals have indeed been symptomatic of change, as indicated in this report, with many expecting their employer to be completely transparent and authentically committed to ESG.

With ears and eyes in the talent community, we are uniquely positioned to help with your talent challenges. Sustainability is here to stay and the team at LVI Associates are having daily conversations with business-critical talent who place a firm emphasis on ESG. Want to be part of the discussion?

[Reach out to one of our specialist consultants today on how we can support your talent strategy.](#)

About LVI Associates

LVI Associates is a specialist talent partner for the engineering and infrastructure sectors.

Engineering and infrastructure play critical roles in shaping the future of our communities. LVI Associates supports industry-leading organizations to secure professionals who make a profound difference in our everyday lives. From ensuring that the public has access to everything from clean drinking water and reliable electricity, to safe housing and roads for self-driving cars, we secure top engineering and infrastructure talent with speed, global reach, and accuracy.

LVI Associates provides permanent, contract, and multi-hire talent solutions from our global hubs around the world. We help attract high-performing professionals and match them with your business objectives, ensuring you have the right team in place to meet your company's goals.





Contact the LVI Associates team today for more information on how to partner with us, or follow us on social media for the latest market research and talent insights.

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