WHY SUSTAINABILITY MATTERS TO US

BY NICOLE STAROSIELSKI

For this month's issue, we asked our members: Why does sustainability matter to you? What hopes of change do you have for the subsea industry, the broader digital infrastructure space, or the world? What advice do you have for others who care about these issues? Why should they join us? We received a wide array of responses, which we feature below.

Our members are from around the world, and we believe that global coordination – between people who genuinely care about sustainability from different nations, companies, and age groups – is the path to a better future.

FROM THE INDUSTRY

SIMON APPLEBY (SUBSEA ENVIRONMENTAL SERVICES)

"Despite mankind's infinite ability for innovation, we all operate in a closed system of finite resources.

A focus on sustainable development is development which meets the needs of the present without compromising the ability of future generations to meet their own needs. This focus is something I try to live up to. Recovering and recycling out-of-service submarine cables is a clear demonstration of this approach, returning high quality, increasingly scarce materials into the global value chain, promoting a sustainable future for our industry.

As a founder member of Subsea Environmental Services, contributing to making this possible is something I am proud to be a part of. I am confident we can develop the benefits of this opportunity and help to deliver the sustainable future required. To quote Rob Newman, there is no planet B!"

JOHN BOOTH (MANAGING DIRECTOR, CARBON3IT LTD)

"About 15 years ago I visited the Eden Project in the UK. At the time I was installing servers and rolling out new desktops and laptops to large corporations. I recall visiting one large organization twice over four years replacing perfectly good equipment with newer equipment and got to thinking whether this was sustainable, even more so when at Eden I saw the WEEE man.

Seeing a towering statue made out of waste electronic equipment had a profound effect on me and triggered me undertaking a degree in technology from the Open University and after that starting Carbon3IT Ltd to provide consultancy on the environmental impact of ICT equipment, devices, network and data centers.

WEEE Man

Now, my colleague Nick Morris and I are very active in this field providing a lot of insight into the environment impact and sustainability for data centers and now via the Sustainable Subsea Networks project, Cable Landing Stations where we are researching the use of data center metrics and designs to cross fertilize sustainability and energy efficiency concepts.

Through our other research it is quite clear to me that the tech industry isn't sustainable and that we will soon face a reckoning, this may come through legislation, it may come through consumer pressure, it may come from not being able to access the materials we need, but it will come and we need to be ready, the world needs sustainable technology and communication links."

DEREK CASSIDY (ICRG/BT) IRELAND

"Sustainability matters because it helps to preserve the future for our future. By understanding and working with our environment we can help sustain it for our future needs. Being conscious of the seabed, its

ecosystem and the environmental impact that submarine cable systems can sometimes infuse into the local system, by focusing on the best in practice tools and procedures, we as an industry lead the way in preserving the seabed for its natural inhabitants.

Instead of following rules, we should rewrite them so that the impact on the seabed and environment is negligible and even invisible, we should be the leaders in this field and help promote sustainability.

Having a sustainability procedure that is agreed by all will help to push forward a publicized view that is accepted by the overall marine industry is accepted by all."

ERICK CONTAG (SUBOPTIC FOUNDATION)

"Sustainability is important to me because it secures a healthier planet for our future generations. It's through our collective actions that we will truly make a difference in shaping the world we leave behind."

SHEREEN ELTAYEB (BUSINESS DEVELOPMENT ENGINEER, TELECOM EGYPT)

Giza, Egypt

"As a Telecommunications engineer, I was always concerned about sustainable energy sources. I was wondering if there would come a day when a green perspective would rule the world. A few years later, I got the answer. Now, I am still in Egypt, and I am a PhD candidate studying sustainable project management.

The way I see sustainability is that it means not compromising your ethics and values towards the planet earth. To embrace sustainability goals is the volition to restore the planet from the deeds of old generations for the good of future generations. The altruistic mindset drives you to take the hard way in order to gain long-term fruits that you may never taste."

KERI GILDER (CEO, COLT TECHNOLOGY SERVICES)

From: Leadville, Colorado
Currently located in: London, UK

"I suffer from climate anxiety. My fears around climate change – the urgent need to slow its impact on our planet, our people and living world, and the legacy we leave to our children - keep me awake at night and are constantly on my mind. Climate anxiety is real: almost 60% of 16-25 year olds in a study of 10,000 people across 10 countries are very or extremely worried about climate change, and for 45%, their concerns negatively affect their daily life. As an industry, and as one of the biggest contributors to carbon emissions, we have a duty to lead lasting change. We urgently need to address this together, but instead of feeling afraid we must see it for the remarkable opportunity it is.

Globally, we're experiencing the highest-ever volume of subsea cable construction. Our industry is comprised of some of the world's greatest technical and innovative minds, which is why we're finding ways to deliver sustainable digital infrastructure that don't cost the earth. We can position cable landing stations to take advantage of natural resources and cooling techniques; we can reuse hardware components, extract precious metals from equipment and contribute to the circular economy; we can reduce fuel consumption and use renewable energy sources; we can utilize uncrewed service vessels and benefit from technologies like AI for intelligent, sustainable, traffic routing. If we come together, as an industry, what we can achieve is limitless. And imagine that as a legacy: subsea and digital infrastructure is the force for good."

DAVE HORNER (GOOGLE)

From: Southport, UK
Currently located in: London, UK

"Sustainability matters to me personally because I believe in leaving a healthier planet for future generations. Embracing ever evolving technological advances of recent years provides us options that our previous generations didn't necessarily have available to choose from at all. That enables us to actively choose to create sustainable solutions, and help shape a better future for ourselves and generations to come. We're dangerously close to a point of no return, and we have a collective responsibility to protect the planet as a whole, ensuring a healthy living environment for both humans and animals, by making conscious choices.

I've always been fascinated with the underlying engineering of how things work, and growing up that easily led me into strongly believing we should always prioritize repairing / fixing wherever possible, alongside reuse and recycling, instead of continuing to be a disposable generation. But it's important we also make active choices upfront (long before reuse/recycling) to reduce our impact on the planet, by constantly rethinking the "always done that way"

approaches, and help others become more aware to minimize pollution and carbon emissions. Collectively we all must collaborate to ensure a more sustainable future for everyone and everything on this planet."

TAKAHIRO KASHIMA (NEC CORPORATION)

Japan

"During my time at university, I conducted research on global warming. Through this research, I found that the recent rapid increase in temperatures is an exceptionally abnormal variation in Earth's history. In Japan, too, we are facing a rise in the frequency and severity of natural disasters such as typhoons and floods each year. The reason I chose to work at NEC, a company providing IT and network solutions, is that we need to find ways to balance a richer quality of life with more efficient energy use. I felt that I could contribute to addressing this challenge through our business activities. Optical submarine cables are indispensable social infrastructure that enables people worldwide to access information equitably and lead more enriched lives. Let us continue to make efforts to ensure that the submarine cable industry remains a sustainable industry for the future."

ALBERTO LEIVA (CUSTOMER SERVICE MANAGER, TELXIUS)

Madrid, Spain

"Since I was a child, I have always been instilled with the need to keep nature free of trash. What struck me the most was when I saw images of beaches or forests with garbage, and since then I have been aware of sustainability in daily life. I believe that we all have the possibility of contributing to a certain extent to having a cleaner and more efficient world with regards to resource consumption.

On the other hand, a great challenge for our industry is to find a balance between development and sustainability, and I believe collaboration and implementation of good practices can help to achieve this."

QUYNH NGUYEN (OCEANIC ENVIRONMENTAL CABLES GMBH)

From: Hanoi, Vietnam
Currently located in: Hamburg, Germany

"People naturally react to immediate threats, like quickly ducking when your ice cream scoop is about to fall on your shirt. But when it comes to climate change, the danger can feel distant and abstract, like waiting for your favorite ice cream to melt in a freezer that's slowly warming up – it takes forever. The choices we make today will shape the world our children and grandchildren inherit, just as we are dealing with the choices that were already made long ago. It's not just about protecting the planet; it's about ensuring we don't prioritize our own comfort over our future.

In the subsea industry, my hope is for a strong shift towards more sustainable practices that minimize environmental impacts. Every action, no matter how small, contributes to the larger goal. Together, we can forge a path to a more sustainable and equitable future for all."

PETE NISBET (MANAGING PARTNER, EDENSEVEN (PART OF CAMBRIDGE MC))

London, UK

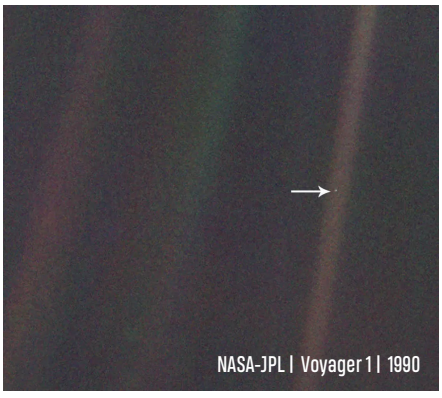
"I've been involved in the energy and carbon sector for over three decades and have seen the way in which changes in consumer needs and regulation can force businesses and government bodies to 'move the dial' when it comes to attacking climate change. Over this period, we've seen great advances in technology and the overall appetite to decarbonise, but it is clear to see that the speed of execution isn't quick enough at the moment and we need to collectively do more.

I personally and I know the rest of the team at edenseven feel privileged to play a small part in trying to accelerate positive change across this and other sectors by using our experiences/knowledge and those of others to make a difference."

NICK MORRIS (CARBON3IT)

Location: Pale Blue Dot

"Sustainability is important to me because it gives our civilization, our species a shot at making it through the next century without experiencing



significant regional collapse.

Why? The billions of humans alive now and to come, in poor states and rich, have absolutely legitimate desires and needs for high quality services in: water; nutrition; housing; cooling; heating; education; healthcare; transport; security; effective public sector institutions...

The magnitude and growth momentum of these needs are unprecedented.

Hence, being able to fulfill them in ways which are sustainable forcibly reduces local and regional tensions that may otherwise result in armed conflict, violence, and destruction of life-supporting physical and organizational infrastructures.

Having witnessed the impacts of conflicts and resulting local collapses, as many of you also have, I realize that the potential amplification of these horrors is also without precedent: we need all the tools we can muster to minimize this amplification, and sustainability is a tool that bakes in low impact performance for decades to come.

'Nature' doesn't care about the welfare of any species, including humans, or indeed, the existence of life itself: this one is on us.

Nature is indifferent.

I am not."

GUSTAVO REGNICOLI (R&G TELECOMM GROUP)

Buenos Aires, Argentina

"If we separate trash at home, prefer bikes, spend more money for a hybrid car or A++ rating appliances as personal sustainability initiatives, we should dedicate part of our professional time to influence these same matters while we do business. So, setting a concrete EE&S plan for submarine cable operations and how to do it are a challenge, departing from simplest matters, with immediate results, to more complex and resource demanding solutions. Many ideas make a tendency."

VEDRANA STOJANAC (CIENA GLOBAL SUBSEA; LEAD OF SUSTAINABLE SUBSEA NETWORKS CABLE LANDING STATION GROUP)

From: Zagreb, Croatia
Currently located: New York, USA

"My awareness of climate change began in 2006 when I watched Al Gore's documentary An Inconvenient Truth. Nearly two decades later, the urgency of the issue continues to be amplified by voices across generations, from the 98-year-old biologist Sir David Attenborough to the 21-year-old activist Greta Thunberg. Their message resonates deeply: everyone has a voice and a role to play in addressing the climate crisis, no matter how small the contribution might seem. My own understanding of climate change became personal 15 years ago during a visit to Antarctica. Seeing green patches of grass and experiencing rainfall in a place renowned for its frozen, barren landscape was a rare glimpse into the accelerating effects of global warming – a contrast to the icy wilderness I had expected.

Working within the subsea cable communications industry at Ciena, I am very aware of the intersection between technology and environmental impact, which has underscored the importance of sustainability in my field. Through my further involvement with SubOptic's Global Citizen Working Group on Sustainable Subsea Networks, I have become more committed to fostering both industry and personal changes that can drive awareness and progress in the fight against climate change."

JOHN TIBBLES (SUBOPTIC FOUNDATION)

England, UK

"I lived on the island of Bermuda for almost thirteen years at a time when my children were very young. The Atlantic Ocean really was everything to them since Bermuda is such a tiny island of just twenty square miles. Living there, you face the ocean every day, from its balmy blues and aquas in the summer to forbidding gray and white tumultuous waves in the winter. You are just a speck.

Because of this very intimate relationship, you also become aware that in some ways the oceans are fragile, you see the small changes in temperatures and currents as well as human impact: cleaning boilers and dumping heavy oil fuel are not something you see on the news on the other side of the world, but in Bermuda you see them close up.

Bermuda is not easily accessible by ships or cables being surrounded by an extinct volcano upon which a reef–the farthest north coral reef–has grown and clings precariously to life as I write this. So in the subsea world, while our direct impact is quite modest we can improve it and we are taking steps to do so. Those modest improvements become part of the work that we need to do to protect the oceans because when you live literally on one you realize just how fragile they are despite their vast size. Protecting the oceans protects us all–and every little helps."

HESHAM YOUSSEF (SENIOR TRANSMISSION ENGINEER, TELECOM EGYPT; SUSTAINABLE SUBSEA NETWORKS RESEARCHER)

From and currently located in: Alexandria, Egypt

"I believe that sustainability is a pressing global issue because of factors such as climate change and increasing demand for IP traffic. As someone working in the field of optical transmission, I am particularly concerned about the sustainability of subsea cables since they are crucial for internet traffic.

In my perspective, the primary challenge in establishing a sustainable subsea network is meeting the increasing demand for IP traffic and enhancing the transmission fiber's capacity. Suppliers in this industry are encountering the challenge of increasing data capacity by enhancing modulation techniques to increase bit rates per channel. Research is also being conducted on space-division multiplexing (SDM) to boost fiber transmission capacity, such as multi-core fibers and multi-mode fibers.

For those looking to contribute to sustainable internet efforts, it's important to understand the key factors that drive sustainable network infrastructure. This includes using renewable energy in the industry to reduce carbon emissions. It's also crucial to explore technologies that can handle the high demand for IP traffic. These two aspects play a significant role in maintaining sustainability in the subsea industry."

FROM THE NEXT GENERATION: STUDENTS ON SUSTAINABILITY

IAGO BOJCZUK (SUSTAINABLE SUBSEA NETWORKS GLOBAL POLICY CONSULTANT AND PHD RESEARCHER)

From: Atibaia, in the state of São Paulo, Brazil
Degree (in progress): Sociology, University of Cambridge
Currently located in: Cambridge, UK

"I grew up in the countryside of Brazil, and my childhood memories always take me back to being surrounded by trees, waterfalls, animals, and a bright, clear night sky. However, it wasn't until I began my doctoral studies that I started thinking about sustainability as both a thinking and an action-oriented practice that should be at the core of everything we do. Today, I research digital infrastructures in the context of Global South countries, and I aim to raise awareness of how natural resources and geographic circumstances are intimately tied to the digital worlds we are building. Grounding the internet within these diverse realities brings sustainability to the forefront, especially in a world facing the climate crisis where we need to act fast and in collaborative ways. As I like to remind myself every day, the internet should serve as a tool for building a global village, but this requires collaboration between governments and companies to ensure that connectivity is equitable, not extractive and that it follows principles guiding us toward a greener future. It is a difficult task, but one that fuels my passion for sustainability as an essential part of how we must shape the future."

One of the immediate challenges I see is the need to balance investments in sustainability in ways that benefit both businesses and the countries involved over the long term. I often compare the digital infrastructure sector to space exploration—while the investment may be substantial at first, the potential to leverage the outputs for broader societal gains is immense and spans generations.

My advice to others is to always think about the internet as a global endeavor, and, as such, we need to approach sustainability the same way."

TOCHUKWU EGESI (SUSTAINABLE SUBSEA NETWORKS, PHD RESEARCHER)

From: Southern Nigeria
Degree (in progress): PhD in Computer Science at the University of Cape Town)
Currently located in: Braga, Portugal

"As someone who hails from the Southern part of Nigeria, I have witnessed firsthand the devastating impact that industrial activities, particularly oil extraction, can have on the environment. The pollution in my home region has caused severe damage to ecosystems, health, and livelihoods. This personal experience drives my deep commitment to sustainability. My research on broadband internet infrastructure in Akwa Ibom State, Nigeria (the only state outside Lagos, Nigeria, that hosts a cable landing station) is not only about advancing digital connectivity but also about ensuring that such advancements do not come at the cost of environmental degrada-

tion. We can and must develop technologies that serve society without compromising the health of our planet.

One of the biggest challenges in achieving a sustainable subsea network is balancing the need for rapid technological advancement with environmental conservation. My hope for the future is that we will develop more energy-efficient technologies and adopt practices that minimize environmental impact, such as using renewable energy sources and carefully planning the placement of infrastructure to avoid sensitive ecosystems. In the broader digital infrastructure space, I aspire to see a shift towards a circular economy where resources are reused and recycled, and where digital expansion is pursued in harmony with nature.

My advice to students is to stay informed and be proactive. Sustainability in digital infrastructure is a complex field that requires a multidisciplinary approach. The journey to a more sustainable internet will require innovative thinking and dedication, and there's a need for fresh perspectives to drive this change."

ELLA HERBERT (SUSTAINABLE SUBSEA NETWORKS UNDERGRADUATE RESEARCHER)

From: Florida, United States
Degree (in progress): University of California, Berkeley
Currently located in: California, United States

"I care about sustainability because I care about the future of our world. Sustainability is necessary to ensure economic stability and to preserve resources for future generations. I also believe protecting the environment from harm is important, which is impossible without sustainable development. This is why I am so passionate about my research– setting up standards for the sustainable development of internet infrastructure is crucial for building a lasting future that embraces technological advancements while avoiding burning unnecessary resources.

One of the biggest challenges to achieving a sustainable subsea network is balancing sustainability initiatives with economic growth. In a period of high demand and exploding growth, it is hard to advocate for prioritizing sustainability. However, we must ensure that the infrastructure being put out not only promotes economic prosperity, but also uses resources efficiently and doesn't harm the environment. My hope is that collaboration in the industry can make it possible to collectively prioritize sustainability since this is the key to long-term economic success.

My advice for other students interested in joining us would be to be bold in sharing your ideas. My experience in the industry so far has been overwhelmingly positive, and having the courage to speak about issues that I found important was vital. As young students, our perspectives are crucial to sustainable development since our future will be most impacted by the decisions being made right now. Speaking up and pursuing pathways that will allow you to share your voice is one of the most important contributions you can make to promoting sustainable internet infrastructure."

ISABEL JIJON (SUSTAINABLE SUBSEA NETWORKS MASTER'S RESEARCHER)

From: Ecuador
Degree (in progress): Human Rights and Humanitarian Action at Sciences Po Paris' School of International Affairs
Currently located in: France

"As a young person, I am deeply anxious about the future of my loved ones, humanity and the fauna and flora of the planet. I have witnessed the effects of climate change in my home country of Ecuador, even in "untouchable" paradises such as the Galápagos Islands. I particularly worry about the unequal and devastating impacts climate change is having and will increasingly have on less privileged regions of the world, causing or exacerbating humanitarian crises. I am interested in studying collaborative industry and academic efforts to push sustainability on the subsea networks domain, especially the marine fleet and operations. I hope that subsea cables can become a model of sustainability for other global systems or industries that require global mobilization in order to become green.

My biggest advice to those interested in joining us is for them to not self-censor themselves based on their initial studies/area of expertise. There is space for everybody and every talent to contribute in the transition towards a more sustainable way of communicating through subsea networks, and everybody is welcome."

sustainable SUBSEA

MARIAM REDA (SUSTAINABLE SUBSEA NETWORKS UNDERGRADUATE RESEARCHER)

Degree (complete): Business Administration, majoring in marketing at Canadian International College Egypt

"During my college years, I gained a deep understanding of sustainability's importance, particularly in ensuring long-term viability. Businesses that strategically integrate sustainability—minimizing waste, optimizing resources, and considering the triple bottom line (people, planet, profit)—are better equipped for longevity.

For fellow students interested in internet sustainability, I recommend actively seeking internships or projects related to sustainable technology. Collaborate with startups, NGOs, or companies committed to green initiatives. Hands-on experience in this field is invaluable."

HABIBA SALEM (SUSTAINABLE SUBSEA NETWORKS UNDERGRADUATE RESEARCHER)

Degree (in progress): Business administration with a major in finance at the Canadian International College. Giza, Egypt

"Sustainability has always been a guiding principle for me. Through my work on subsea networks, I've had the opportunity to not only translate technical articles from English to Arabic to be published in the Middle East, but also collaborate with my colleague on a video promoting sustainability and more. My dedication stems from my belief that the digital infrastructure we develop today directly impacts our environmental future. I am committed to ensuring that the systems we create are sustainable, supporting a greener world for future generations.

One of the primary challenges is finding the balance between rapid technological advancements and minimizing environmental harm. As part of a global team, I have collaborated with colleagues from all over the world to address these issues. My future hope is that sustainability becomes a fundamental aspect of the broader digital infrastructure space, ensuring that technological growth and environmental preservation go hand-in-hand.

My advice is to start now and actively engage in sustainability projects. Whether you have expertise in technology, design, or finance, your unique skills can make a difference. Interdisciplinary collaboration is essential, as sustainability is not just a technical challenge, but a human one that requires all hands on deck." STF

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