

Built for Change | Accenture + T Brand Studio

Episode 39: FINAL Transcript

Powered for Change

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MUS

EMILY: I moved to San Diego in, in 2002, and it was right after the, you know, kind of the commencement of the energy crisis.

ELISE: This is Emily Shults. In the early 2000s, Emily took a job at a power company, in a precarious moment.

JOSH: At the time, California faced severe shortages of electricity. Electric prices skyrocketed. And on top of that, there was a drought, which limited hydroelectric power. And then a series of rolling blackouts left over a million people in the state without electricity.

EMILY: The energy crisis brought out a whole new set of challenges for the marketplace.

ELISE: Solving the problem required collaboration on multiple levels. The state government had to reach across state lines to get power from other sources and had to work with private companies to buy power wholesale.

JOSH: It also funded the construction of new power plants and tapped into more diverse sources of energy, like a gas fired power plant that Emily helped build with a company that she'd just started working for. In time,

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electricity prices in California leveled off and Emily's career at the company grew. She's worn many different hats over the years since then.

EMILY: I've really had the privilege of seeing the business through a variety of lenses, in the eyes of a buyer and a seller and also the evolution of technologies being incorporated into the portfolio.

ELISE: And now these technologies are at the heart of Emily's work. In her current role, Emily is Senior Vice President and Chief Business Officer of Low Carbon Solutions at Semptra Infrastructure.

She oversees development of all that it takes to distribute new, clean, and secure power sources, like natural gas, renewables and more.

EMILY: As anyone who's watching or participating in the conversation about energy knows, you know, the market and the climate around energy is constantly evolving. The one thing that is certain is that demand for energy is increasing while the commitments to decarbonizing and working to slow climate change are also increasing.

MUS OUT

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THEME IN

EMILY: Collaboration between countries, between governments, between, you know, private sector is I think critical in supporting the energy transition.

ELISE: I'm Elise Hu.

JOSH: And I'm Josh Klein.

ELISE: And this is Built for Change, a podcast from Accenture.

BEAT

ELISE: Josh, over the last couple of years, there has been so much talk about companies and industries trying to get to net Zero emissions. [Josh: Mm-Hmm.] My question is, are we even making progress towards those goals?

JOSH: It's a great question. I do know that a lot of companies are struggling to find a balance in that, right? They're looking for options that are affordable and they're clean, and also they have to be reliable.

ELISE: Absolutely. And right now the stakes are high, the pressure is high for all kinds of companies, to lower their carbon footprint. And it's not just power companies. It's pretty much every industry.

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JOSH: Absolutely. These relationships are complex and so are the technologies and the systems that we need to develop to actually get there, to net zero. So that's the trend we're learning about today, how different industries can come together to build greener solutions that will power the future.

THEME OUT

STEPHANIE: In the last 12 to 15 years, my main focus has been in decarbonizing power.

JOSH: This is Stephanie Jamison, Global Resources Industry Practices Chair and Sustainability Services Lead at Accenture. She and her team recently put out a report called Powered for Change, in which they look at the intersection between multiple industries, heavy industry, light industry, and the companies that power them.

STEPHANIE: There are five industries that emit up to 30 percent of global CO2 emissions, and those are steel, metals and mining, cement, chemicals, and freight and logistics.

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JOSH: These are the heavy industries that make the world go around. Think companies that manufacture construction materials, who ship goods around the world, and, in the process, emit a lot of CO2. But heavy industries can't reach their net zero goals alone. Other lighter industries emit greenhouse gasses, too.

STEPHANIE: Think of automotive, think of consumer goods, retail, as examples of light industry.

JOSH: In a nutshell, light industries deliver to the end consumer. Products as big as cars and as small as smartwatches. Heavy industry might supply a car or smartwatch manufacturer with metal or ship those products across the ocean. The thing to remember is that heavy industry and light industry are part of the same value chain, along with another key player – the power industry. Because manufacturing processes of all scales require a steady supply of oil, gas, or electricity.

STEPHANIE: Each industry in this value chain that we looked at, oil, gas, and power, heavy industry and light

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industry, they're all reliant on each other to achieve their decarbonization goals. They can't do it alone. Right

JOSH: Right now, the dynamic between these three industries is what Stephanie's team calls a vicious cycle of inaction. If no one in the cycle prioritizes decarbonization, then every industry involved will be in a loop of buying high emissions materials and selling high emissions products.

STEPHANIE: To break this cycle, we need light industry to develop green products that attract what we're referring to in the research as a green premium.

JOSH: A green premium is a higher price tag for products whose materials and production processes are low in emissions but high in cost.

MUS out

STEPHANIE: It could be a dress, it could be shoes, it could be a suitcase. About 25 percent of the end consumer is willing to pay a green premium for an end consumer product. But that's not enough for companies to just produce low carbon products at scale. Because that clean energy isn't available yet, it's too expensive.

JOSH: So the responsibility to

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set that higher price falls on light industry companies. Why? Well, because they're closer to the end consumers who are willing to pay a bit more to reduce their carbon footprints. But that's where green premiums can help. As more consumers reach for greener products, the money will move up the value chain so that everyone involved has more funds to commit to lower carbon processes. There's already examples of this happening.

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STEPHANIE: One of my favorites is in the automotive industry. There is a sports car manufacturer that has collaborated with a Swedish startup, a green steel manufacturer. So the automaker is working across the ecosystem. They are an example of light industry. working with heavy industry, the steel manufacturer to create the demand by creating a premium product that customers are attracted to. And therefore they can commit to pay the premium price for that lower carbon steel.

JOSH: Here's how that breaks down across all of the industries involved in the

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cycle. The customer pays a green premium on a sustainably made sports car, a product supplied by light industry. That auto manufacturer then uses that premium to buy the green steel that they use to make the car. And then the heavy industry company that supplies that steel is able to pay green premiums on the power that they use to produce their steel from renewable sources or other clean options from green energy companies.

STEPHANIE: We break the cycle of inaction and get these products to market. And the more that companies work together to do that and develop those kind of products, the faster we can scale. The power needed and the materials needed to go to those manufacturers.

JOSH: Stephanie and her team call this the virtuous cycle of collective action because it requires all industries to participate and commit to providing green options to consumers and to each other. Over time, this will result in those green premiums going down in cost. Because committing to decarbonization can

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actually make reaching those goals more affordable.

STEPHANIE: Heavy industry is in a very similar place to power generation 20 years ago.

MUS out

Wind and solar were previously the most expensive forms of power. And today the exact opposite is true. A combination of renewable subsidies and the right mix of investment and innovation have driven the cost of renewables down to where they are now.

JOSH: Now, wind and solar are a cost competitive and viable source of power generation. Stephanie thinks that we could see a similar pattern emerge for heavy industry staples like green steel and green cement. But it's going to take collaboration between heavy industry and their power providers.

STEPHANIE: If oil and gas and power companies as well as heavy industry focus their actions today, we will see a wave of innovation and funding, prices would start to come down the S curve.

JOSH: This S curve is a model for predicting how the cost of certain technologies or products will fall over time. Every new technology relies on early adopters prepared to pay a premium.

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They fund the early flat section of the cost curve, where costs fall slowly. Without them, the technology never reaches the steep downward section of the curve, where prices start to drop at a faster pace. Accenture developed an S curve model to plot the decarbonization of heavy industry.

STEPHANIE: It helps to answer the question of how fast can we go or at what point will a certain energy technology, like hydrogen, in a certain market become cost competitive. And that's what we do with our clients and that's what companies that are investing in these new sources of energy and new energy technologies have to do to decide how much to invest now, how much to invest in the next horizon, and what the cost and yield benefits will be.

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JOSH: Companies that aren't thinking about investing in tech that will help them decarbonize or who are resisting doing so because of costs could well be left behind when those technologies make

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their way along the S curve. Enterprises also need to be smart about where they invest and how they collaborate across industries.

STEPHANIE: An example of that could be a power company that is only producing solar power for its own operations today, when in fact it could be competitive in the market to develop solar power for some of these heavy industries, a cement manufacturer, a steel manufacturer, so that those companies can decarbonize faster.

JOSH: Fortunately, Stephanie says that there are a variety of ways that organizations can get a leg up on their stake in these innovations and look for other means to decarbonize, too.

STEPHANIE: We identified what we call decarbonization levers. Some of these levers fall into an easy, you'd quote, easy category, like decarbonization buying renewable power. Some examples are removing and storing carbon that falls into the hard category. Recycling is another example. Green IT, think about

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banks and other companies that are really heavy in data, decarbonizing their IT systems, moving to the cloud, running processes in an energy efficient way.

JOSH: Overall, Stephanie says it's important to think about their role in the whole value chain. Learn from peers in other industries. And most importantly, to set goals.

STEPHANIE: The first step in action is to set the goals. Because without the goals, companies aren't measuring their progress at all. Laying out a roadmap for how to achieve those goals within your own company and going beyond your four walls is how companies can participate and achieve compliance, and in many cases, growth in their business.

MUS out

JOSH: To actually meet these goals that will get them closer to net zero, Stephanie and her team suggest that companies develop a three year plan and focus on three

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main imperatives.

STEPHANIE: First, target the products that attract the green premium that will finance that first phase of industrial decarbonization. Then, the power companies, the oil and gas companies, have to accelerate the scaling of low carbon power and hydrogen so that a secure supply, an affordable supply, is guaranteed. And heavy industry and the power and oil and gas companies need to drive down capital and operating expensive low carbon infrastructure to make all of these products affordable for consumers.

JOSH: Focusing on those three imperatives and making a three year plan is only the beginning. Stephanie says that decarbonization is a team sport and it's not going to happen overnight.

STEPHANIE: This is a multi year transformation, a multi year journey, and all of us are going to have to have the mindset of, of learning and, and really just being attracted to change and leading through change.

MUS

ELISE: Josh, what do you

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think about the prospects of reinventing this vicious cycle that we're in to a more sustainable one with decarbonization firmly at the center?

JOSH: Well, I think we have a long way to go, but it does seem like these relationships between all of the different types of companies really are key. And like Stephanie said, it's a team sport.

ELISE: Yeah. Everybody's got to play. And for so many companies, it really starts by figuring out where the green solutions like cleaner materials and power are and then how to weave them into their regular operations.

JOSH: Totally. So now let's turn back to Emily Shults at Sempra Infrastructure to hear more about the solutions that they're building out to help companies decarbonize.

MUS out

EMILY: At the end of the day, the goal is the same. How do we decarbonize? How do we provide more energy while lowering the environmental impacts of energy?

JOSH: For Emily and her team at Sempra Infrastructure, these questions are at the core of what they do.

EMILY: We are looking for different ways to bring

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power and gas to your home, um, to your business. We develop, we build, we operate, and we invest in the infrastructure, the pipes, the wires, all the different things that you need to meet the world's energy and climate needs.

JOSH: In other words, they're helping to develop the technology that could help industries decarbonize on a broad scale, and are working to make this technology more accessible. In her current role, Emily's focused on what the company calls "low carbon solutions."

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EMILY: In the low carbon solutions business line, we are focused on the development of clean power generation, so that includes wind, solar, energy storage, as well as hydrogen production, advanced carbon capture, and storage technologies, as well as ammonia.

JOSH: Some of these solutions are still being developed. But Emily and her team have a few ideas for how companies in the heavy and light industries can reduce their emissions while they wait for

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lower carbon alternatives to become more viable.

EMILY: There are many industries whose emissions are hard to abate because their industrial processes require heat or fuels and full electrification is going to be hard for them. The first phase of transition could be to displace coal and fuel oils with natural gas and that's one of the things that we're doing.

JOSH: Liquefied natural gas emits 20% less CO₂ than conventional fossil fuels. So while it's not the end game, it is a reliable and greener source of energy, especially for industrial processes.

EMILY: I think what you have heard in the industry is that the energy transition is happening, but LNG or natural gas is going to be around for the foreseeable future for a long time. Let's talk about California, where they have a high penetration of renewable energy. You still need natural gas when the sun's not shining or when the wind's not blowing.

JOSH: Fortunately, there's an alternative on the horizon that's very similar to

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LNG, but is even cleaner.

MUS out

JOSH: It's called e-natural gas –

EMILY: Which is a carbon neutral synthetic gas produced from renewable hydrogen and recycled carbon dioxide, and it can utilize, you know, existing pipeline infrastructure, just like any regular natural gas molecule.

JOSH: Similar to e-natural gas is another alternative called biogas recycle, or renewable natural gas. It involves taking the greenhouse gasses from organic material, like animal waste, and converting those gasses into fuel, rather than letting them escape into the atmosphere. Emily says that these two alternatives to liquid natural gas could be an intermediate phase of decarbonization for many industries. And she and her team at Sempra Infrastructure are working to make that happen on a global scale. They're working with a handful of companies in Japan to create the first international supply chain of liquefied e-natural gas.

EMILY: This project really embodies the goals of the U. S. Department of Energy and

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Japan's METI, or Ministry of Energy Trade and Industries. It's an ideal example of how international cooperation between both governments and private sector companies can really help advance the energy transition and meet climate goals through utilizing emerging technologies again and innovation.

BEAT

EMILY: We have to collaborate to be successful because not one company is going to be able to do it on our own.

JOSH: While natural gas and its alternatives are a key part of the energy transition, Emily says that one of the long term solutions is clean hydrogen. When hydrogen interacts with oxygen in a fuel cell, it produces electricity without any polluting byproducts.

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EMILY: Although hydrogen has been around as a fuel for, you know, airspace and other, and other industries, the large-scale use for industries that are hard to abate is at a very early stage. There's an overall strategy is to create hubs where hydrogen can be produced and consumed while more

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efficient ways of transportation are also being developed.

JOSH: Meaning, in order for hydrogen to become a widespread and viable source of energy, companies and state and local governments would have to invest in its development. That requires building the hubs that Emily mentioned.

EMILY: The aim of these hubs is to expedite the production and usage of that clean hydrogen by taking advantage of the benefits that come from having everything closely connected in an industrial cluster, an industrial corridor.

JOSH: Sempra Infrastructure is working with a handful of other organizations, from non profits to academic institutions and with other energy companies, to make these industrial clusters a reality in the U.S. Gulf Coast region. The project is called the High Velocity Hydrogen Hub.

EMILY: The Gulf Coast already has more than a thousand miles of dedicated hydrogen pipelines, and I would say around 48 hydrogen production plants, making it the nation's largest hydrogen producer right now.

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And so the High Velocity Hub, what it does is it allows the participating companies to increase this impact and further decarbonize for the energy industry in general.

JOSH: And even though hydrogen offers a promising solution down the road, Companies can maintain their commitment to decarbonization by investing in alternative energy sources that are already widely available, like wind, solar, and another process – carbon capture and sequestration.

EMILY: Carbon dioxide is the most emitted greenhouse gas. So we look at it as really a low hanging fruit when it comes to decarbonization, and it can be supported through permanently capturing and storing carbon dioxide. Deep in the ground, and that's the process that we call carbon capture and sequestration.

JOSH: Through carbon capture, that CO2 is either permanently tucked away, underground and out of the atmosphere, or it's used in production of e-natural gas.

BEAT

JOSH: The bottom line is, companies across every industry have a lot of clean energy

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options at their disposal. Some of those options might come at a higher cost, but in order for enterprises to thrive long term, Emily believes that it's crucial for them to start investing in decarbonization now.

EMILY: I'm not sure how a company survives the next 10, 15 plus years without this being an area of focus. The future generations are demanding it, and as companies we need to listen.

JOSH: That might start with investing in emerging technologies and infrastructure, but also getting creative about their deployment and making small investments that add up to meaningful change.

THEME

EMILY: If you think about people who are early adopters, let's say, of electric vehicles, for example, you used to have to plan your entire trip in advance and around the availability of charging stations. Now, everyone from banks to gas stations to office buildings. buildings have infrastructure in place where you can charge your vehicle.

JOSH: There are plenty of ways for businesses to prioritize decarbonization, but they can't do it alone. Large enterprises should also work together

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with governments to meet emissions targets.

EMILY: Engaging with your regulators and talking about policy. I think you have to do that, spending the time trying to understand the technology, creating that space to collaborate, because it can't just be one entity, one company, one individual. We do all have to partner together to find out the right solutions.

ELISE: Okay, so what do you think? What are your reactions to all this new green tech that we've been talking about?

JOSH: I think it's super exciting, but not least because it's also incredibly necessary. You know, we really need innovative solutions that are beyond what we've done so far.

ELISE: Right, right. And it's not going to take the work of just one company, crucially. Everybody needs to be prioritizing this and exploring new ways of decarbonizing.

JOSH: Absolutely. So if you want to learn more about the trends we've discussed today, download the Accenture Foresight app. There you'll find more highlights from Accenture's Powered for Change

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report and other emerging trends in business.

ELISE: A huge thank you to Accenture's Stephanie Jamison.

JOSH: And Emily Shults of Sempra Infrastructure for talking to us.

ELISE: Built for Change is a podcast from Accenture.

JOSH: And more episodes are coming soon. Follow, subscribe, and if you like what you hear, leave us a review.

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