The Power Source
Igniting the Future of Florida

July 2024

Gretchen Dolson, PE (NE), MBA, LEED AP

Renewables Director, *HDR*

Gretchen, what led you to pursue a career in energy and what inspires you to stay involved?

For the first part, I graduated in Biological Systems Engineering from the University of Nebraska which and led me to a consulting firm where I worked towards my Professional License in Civil Engineering in Transportation of all things. Over my initial 10 years in the industry, I developed my skills as a civil engineer across multiple industries designing large infrastructure projects including land development, roadways, highways, water/wastewater treatment and conveyance and solid waste facility design.

The second part was an opportunity to support an existing client who moved from an Ethanol company I led Balance of Plant projects with, to SunPower. SunPower was building the first Utility scale projects for Florida Power and Light and was requesting support for land development and stormwater management associated with the facilities. One initial solar project has turned into a career in renewables. I had supported Wind projects in the Great Plains before that, but it was the utility scale growth in solar that made it a full-time career for me.

The important question for me is "Why have I stayed and continue to engage in energy?" The simplest answer I can give is of all the industries I've supported as an engineer, working with Independent Power Producers and Utilities to help with clean energy and the grid energy transition has met my personal need to give back to society more than I think I've taken. I was raised with that expectation, and as my kids grow up, it's deeply personal to me. The Energy space is where I found my place in the larger picture as a technical professional and consultant to bring the greatest positive influence on an industry and I'm grateful for that opportunity.

Describe HDR and the services HDR offers in the Southeast in particular.

At HDR (employee-owned), we specialize in engineering, architecture, environmental and construction services. While we are most well-known for adding beauty and structure to communities through high-performance buildings and smart infrastructure, we provide much more than that. We create an unshakable foundation for progress because our multidisciplinary teams also include scientists, economists, builders, analysts and artists…..***continued on next page***

That's why we believe diversity is our greatest strength. HDR is proud to be an equal opportunity workplace and an affirmative action employer.

HDR is made up of more than 12,000 employee owners, including more than 1,000 power industry professionals. We provide services to our Energy clients including owners' engineering and advisory consulting, design engineering, resource planning and Feasibility assessments, site optimization studies, environmental sciences including field studies, architecture, asset management, coastal engineering & restoration, economics and finance analysis, program management and project delivery support, right-of-way and strategic communications, and sustainability and resilience/hardening support services. We support renewable and traditional energy clients across all aspects of a facilities' life cycle.

In the southeast region, our Energy team has significant staff presence to work with many of the largest Utilities and IPPs in the USA. Supporting solar, off shore wind, hydropower, transmission and distribution and thermal generation projects across their life cycles, the HDR team performs services mentioned above for many of our clients in the Southeast with particular focus on solar, BESS and hydropower assets in the region.

With much interest in promoting STEM-related careers especially for women, do you find yourself in the minority as an engineer in the renewable energy space? If so, what can the industry do to participate in promoting these careers?

Candidly, I find the renewable space significantly farther ahead than our peer energy industries or even the general engineering profession. I participate on education committees for several industry organizations and the lack of diversity I still see at general energy conferences is tough to see for technical sessions. It's my opinion that the renewables sector has worked harder and has been more successful at this. It also helps that there is greater diversity in our younger professionals entering the technical workforce and a younger workforce compared to traditional power spaces. However, I still see significant differences in the technical trades in the industry compared to environmental/permitting, legal, project finance and project management lines. I'm a firm believer that the industry is greater than one segment of it, but I'd love more women at the table when I'm working with a client regarding acceptable electrical losses, retention pond sizing or turbine tower fatigue.

So, I guess the real question for me is 'How do we change that right?" For me, it starts with being in the community, so my children's friends see a female engineer as normal and possible. It's offering to talk to my daughter's sports teams about STEM when they are in the car with me on our way to events. It's talking to my son's teams too, so they see a mom as an engineer as normal as well. It's work policies that allow me to be an engaged parent while also leading a large energy division at a consulting firm. It's support for the young parents in my team as they stress family life with career paths and showing them one example of how I did it. It's pulling someone aside professionally when there is a need to educate them on why my communication style is different than my male counterpart. And finally, it's not giving up when someone said or did something to really tick me off due to my gender and having that conversation AGAIN because – well – the process never stops if momentum is to go forward.

The Power Source
Igniting the Future of Florida

This year's theme for Florida's Women in Energy Leadership Forum is The Power of Collaboration. Your projects necessitate collaboration and perhaps you have some of the best examples. Describe one example of collaboration you've worked on within any of your renewable energy sectors.

Maybe to protect several NDAs with clients I'll tell about the collaboration scenario HDR performs again and again with IPPs and traditional Utilities alike to build solar+BESS facilities. Every project we do for a client is different and the collaborative communication required to gather the correct information holders and decision makers is also unique by client and oftentimes by project. I find bringing the oftentimes silo'd divisions withing a client of planning, generation, major projects, business and finance, legal, transmission, distribution, environmental and public relations together takes diligence, patience, high strength communicators, facilitation and usually a bit of grit to make it work. It's the hardest part of collaboration and usually the most gratifying at this stage of my career. So how do I do that?

In person meetings, social team building activities, education for PDHs (all engineers need these!) are all opportunities for communication and feedback beyond the typical project call we are all triple booked on tomorrow or the email copied to eight or more staff. Collaboration occurs when staff can thoughtfully speak, listen and understand their part in the information gathering needs to answer the why, what and how questions asked at project kick off.

So I guess one of they key successes for me as a leader for collaboration is to facilitate a project team environment where participants believe their input is valued and will be used to get the project done. I was at a project design review as an Owner's Engineer last week with 26 people in the room from the EPC, the Utility's development, engineering and construction teams and HDR. All parties shared responsibility to complete technical reviews, document comments and response and future actions in one common document. Project cost and schedule impacts were discussed during the technical discussions as were permit and public relations impacts. Design documents for one of the largest solar and BESS projects in the country were reviewed in 6 hours with no change to schedule or significant impact to costs. We accomplished this because all parties listened to each other and discussed alternatives within the project boundaries as an overall team rather than an individual party. No one got everything they wanted; however, everyone was able to have their desire discussed and compared to alternatives and in the end, we have a much better project than we did at the start of the day.

What advice would you give to the 2d year college student looking to pursue a career in energy?

As I look back on almost 30 years in the industry, my advice boils down to three things specific to Energy and a few more in general:

- The Energy industry of today will not exist in 20 years. Be prepared to grow with it as it evolves and focus on "How could we" versus "We can't because",
- Build a solid technical foundation and supplement it with learning in other areas of the industry,

- Understand how the Laws of Physics, Laws of Economics and Human Sociology/Psychology interact in the Energy Industry. It's more than Engineers and electrons,
- Work hard at being better every day in whatever you are doing at that time (Design, Management, Executive, Etc.) and have patience with yourself and others,
- Be open to the unexpected. Opportunities that are career defining often look different than you expect. This is particularly true in renewables and other emerging growth industries.
- You have something to learn from everyone, even the jerk down the hall,
- You will be responsible for mentoring the next generation, appreciate the opportunity to work with talented, young people who are likely very different from you. Learn from them too,
- Don't be the jerk down the hall.