

**The SPE-GCS Podcast “Restatement of Reserves” Transcript
Deb Ryan – 07/27/2021**

Marty Stetzer: Hi everyone, and welcome. I'm Marty Stetzer, President of *EKT Interactive* in Houston. We're proud to be the podcast sponsor with the Society of Petroleum Engineers' Gulf Coast Section. The section was founded in 1935 and now has over 11,000 members. It is a volunteer organization that provides member forums to upgrade and maintain professional competency.

This podcast is one of a series and another learning resource available to the members. Numerous on-demand webinars can be accessed www.spegcs.org. Today our topic is oil and gas sustainability reporting. How will emission targets and regulations impact reserve values?

And I'll be speaking with Mrs. Deb Ryan, with over 15 years of reserves evaluation and reporting work. We're really happy to have her input on this topic at this time of unprecedented developments in our industry. We're really happy to have her input on this topic at this time of unprecedented developments in our industry. Deb, thanks so much for taking the time today.

Deb Ryan: Thanks Marty. I really appreciate you guys having me on. It's good to be here.

Marty Stetzer: Before we get started, I saw that you are now CEO and founder of Swan Mountain Engineering in Denver. To our audience, what is that all about? Sounds more exciting to me than reserves reporting.

Deb Ryan: Marty thanks. I recently went out on my own and started Swan Mountain Engineering. I'm really passionate about the conversations we're having about the big picture and the economic decisions that underpin the production and consumption of energy. I now work with clients to optimize their energy development and to understand the impact that these economic decisions have on your business and also how it impacts stakeholders.

So it's something that I'm really enjoying at the moment, but as you mentioned, I have worked in the reserve space for a really long time. I'm originally from Australia. I've been in the US for a number of years, but I started working for one of the major operators in Australia. And even early on in my career was preparing technical inputs – forecasts, field development plans that went into the reserve base and the reserve reporting for that company.

My next role, when I moved then I actually went across to a smaller, still ASX public company. So ASX, Australian Stock Exchange, for people that aren't sure of the acronym, and I was actually the reserves engineer. And this was the first time I really got exposure to working directly with the third-party reserve auditors.

That was back in 2009 and was starting to work on unconventional reserve and resource estimates, even back then... because we were coal bed methane company, which is really where some of the unconventional reserve reporting started in that coal bed methane space. And that company again, because it was an ASX listed company, they use the PRMS, the SPE Petroleum Resource Management System, but we were also then part owned by companies that reported on the SEC as well. So I got really good exposure to some of the nuances and the differences that exist between the PRMS and the SEC reporting standards.

I moved to the US back in 2012. So I have been here for quite a long time now. And at that time, joined a consulting firm based here in Denver, and still doing a lot of reserve and resource reporting for companies both domestically here in the US but globally. But a lot of the work I was doing also expanded to include some of these more big picture economic evaluations, but still use some of the same workflows and methodologies that we use for reserve evaluation.

**The SPE-GCS Podcast “Restatement of Reserves” Transcript
Deb Ryan – 07/27/2021**

And some of these things included, fair market evaluations for acquisition and sales work, mineral interest reporting for clients, bank redeterminations, and then economic evaluations to support regulatory work and also litigation. So using all of that experience is like I said, what I'm kind of working with clients now in terms of how they're looking at a lot of these big picture economic decisions that they're making in relation to the production of energy and how those decisions that they're making impact their business, their stakeholders, and stuff like that.

So that's me and my background to reserves and where I am now.

Marty Stetzer: Thanks Deb. That's quite a variety of experiences. So I think your insights will be really valuable to our listeners. I spent a little time on reserve evaluation when I was with Schlumberger. But can you start our session with a little bit of historical perspective on sustainability reporting, especially currently, kind of pre- and post-COVID, and then maybe talk about the response of the industry to the Paris Accord net-zero goals.

Deb Ryan: Yeah – I think a lot of people automatically think of things like the ESG reporting and things like that at the moment. And I'm not specifically going to address that today, because at the moment there is a bit of a disconnect with how companies are doing their sustainability reporting and their ESG reporting and their reserves. So today I'm really going to focus on some of the sustainability initiatives and how it's potentially going to more impact the reserves as we go to net zero.

The pandemic in 2020 really brought a lot of focus to the oil and gas industry. But I think actually what happened last year in 2020, really just accelerated some of the things that we were already starting to see set in motion by external forces and some internal things as well within the oil and gas industry. And a lot of these things relating to sustainability, as you point out, were really due to the Paris climate goals that were set in 2015.

We've seen public opinion regarding oil and gas changing pretty significantly. And that agreement that was set in 2015 really started to bring these issues out of more of a fringe area and into mainstream conversations.

Going back to the industry itself though... from late 2016, through to about 2019, oil prices were increasing in that time – OPEC had taken just over a million barrels off the global market, which brought the market back into more of a supply-demand balance and send oil prices are rising again at the end of 2016.

And oil and gas companies here in the US, in particular, the unconventional companies... there was a mad rush on acreage down in the Permian in particular. And there was a lot of promises made about return on those investments to buy land and to develop the Permian just because it was a lower breakeven play. It still is a low breakeven play. And a lot of the lending that's done for new capital is based on reserves.

And so it's called RBL or reserves-based lending for people that aren't familiar with that acronym. And the value that companies have is really around their producing assets, or what we refer to as their PDP reserve base, so their proved-develop-producing base.

And what the PDP reserves does is it actually just is a forward-looking cash flow. So it doesn't include any capital invested on land acquisition or on drilling and putting in facilities to hook those wells up for production. And so sometimes when we're talking then about cash flow and in particular recently there's been a big focus on free cash flow for companies.

**The SPE-GCS Podcast “Restatement of Reserves” Transcript
Deb Ryan – 07/27/2021**

The PDP reserves doesn't actually tell that whole story and very quickly sort of in 2019, we were starting to see a lot of strain on companies to generate free cash flow and provide return on investment to those investors. And some of that wasn't happening.

And because of this, I think in early 2020, we saw a lot of major investors, BlackRock being one of them, and other investors on Wall Street and private investors, starting to actually say that they were going to divest from fossil fuels.

And for those investors, that goes two ways. One, it was them replying to public opinion and how that has changed in relation to the oil and gas industry. But on the other hand, it was an easy economic decision for a lot of them because the oil and gas industry wasn't a good investment.

And some of that to me is really around how we use reserves to underpin those loans and how we're talking about free cash flow versus a reserve base. So it's a really difficult thing for us to get our heads around and a complex problem.

When it then relates to net zero and what we've seen is that public opinion in Europe, particularly after the Paris Climate Accord and the net-zero goals for 2050... In 2020, we very quickly saw a lot of the European majors – BP, Shell, Total, Repsol, Equinor, and others – come up with their own net-zero goals of how they are going to either divest from fossil fuels themselves, or add in things like hydrogen and carbon capture into their own offerings so that they can also achieve their own net zero.

So a lot of those companies still have assets here in the US so we're starting to see some of that trickle on effect. But at the moment, the only big oil company here, the independent company that has come up with their own net zero is Oxy, who's really talking about how they're going to become a carbon company versus just an oil and gas company.

And then what we've seen with Chevron and Exxon, and they both recently put out their climate and emission reduction goals for first quarter of 2021, is they're not talking about net zero. But they're really starting to talk about how they're going to reduce emissions and also aligning themselves with the Paris Accord, but not necessarily coming out with a net-zero goal.

So there's a lot that's been going on since Paris. And unfortunately, like I said, I think a lot of the bankruptcies and a lot of this sustainability reporting and pressure from not only the general public, but from Wall Street... COVID's really accelerated some of that in my opinion, versus actually moving the needle. I think we were heading in that direction anyway.

Marty Stetzer: Thanks, Deb. That was a great summary of how we got where we are. It's clear that the net zero and/or emission reductions are here to stay. How will it impact reserve values and reporting?

Deb Ryan: So in this particular area, I think there's two main aspects that are important that I that I want to cover at least today in the space of the podcast that we're doing. The first is around stranded assets. And the second one is specifically CO₂ and what that looks like.

So in terms of reserves, stranded assets have been the first thing that a lot of people have been talking about. For those that aren't familiar with what that means, it's assets that companies might have in areas that don't currently have development, or in developing countries, or in a developing play, if we're talking about onshore US – but that they might not be able to develop in the future and so they're called stranded because they're going to be sort of isolated and not be able to be developed.

When we talk about reserves, in order for hydrocarbon volumes essentially to be classified as reserves, there's four things that we need to take into account:

1. They have to be discovered, so we have to have drilled a well and found the hydrocarbon accumulation in the ground.

The SPE-GCS Podcast “Restatement of Reserves” Transcript
Deb Ryan – 07/27/2021

2. They have to be remaining, so any produced hydrocarbons both oil and gas that have already been sold are just that. They're sold volumes. The reserves is whatever's remaining to continue to be produced in the future.
3. They have to be recoverable. And what that means is that they have to be recoverable with known technology.

So it's one of the reasons we saw huge upticks in reserves when hydraulic fracturing became a known viable technology to develop hydrocarbons – because that was able to move all those resources, those unconventional resources into reserves, because we had a technology that enabled the production of those.

4. And the final one, and this is where I'm going to actually dig in pretty significantly on both of these topics, is around commercial. And a lot of people when they think of commercial and when they think of reserves, they think it just has to be economic. And economics is definitely one of the aspects of commercial, but it's not the only one.

One big part of commercial is that there is actually a development plan in place and then that development plan is economics. So prices are high enough that it make sense, costs are low enough, all this kind of stuff. But that development plan has to include things like infrastructure, pipelines, and facilities that are required. There has to be contracts in place, and all the regulatory permits have to be in place in order to develop those reserves.

And when we talk about those stranded assets, it's often those regulatory permits and as we're seeing changing sentiments and stuff... that are impacting the fact that companies are not going to be able to put a development plan into place, to go and develop those assets that don't have infrastructure, and that might be stranded. And so if companies had those assets on the books, because there was a plan in place, but now because of regulatory or public pressure changes, they are not going to be able to develop those, they're going to have to take them off the books.

And so that's the first aspect in terms of stranded assets. There's two other impacts with this, that both impact the commercial aspect of this. But one is purely the ability for companies to be able to go out and raise capital, because if Wall Street and private equity and other traditional sources of capital for the industry are no longer going to be willing to lend to the oil and gas industry... Then not having that capital again, to put that development plan into place is another reason that there's potentially going to be stranded assets, because we're just not going to be able to have the money to acquire the land, drill the wells, build the facilities and the pipelines that we need.

And then the final aspect of this is now what we're seeing with some of the changing regulations and how that's going to need to be incorporated is the cost associated with emissions, carbon capture, with emission capture and all of these kinds of things.

So here in Colorado, we recently saw through the Senate Bill 181, a significant number, and pretty much an overhaul of the state's rules and very specific around flaring limits, permits, monitoring requirements. And literally just this week, New Mexico passed their natural gas waste reduction rules. Sorry, that's a total mouthful.

And these rules actually dictate that operators must – it's not an if, it's not an if they can – operators as must capture 98% of all natural gas by 2026, and that's going to require additional capital, additional funding and additional infrastructure for companies. And those costs are going to have to be included in economic evaluations now going forward, which may also mean that there's some projects and wells that are no longer economic and again, could be then moved into those sort of traditional stranded asset categories.

The SPE-GCS Podcast “Restatement of Reserves” Transcript
Deb Ryan – 07/27/2021

I mean, that's a lot just around the stranded asset pace... that's going to, as we're seeing these changing regulations and changing public sentiment that we could expect to see companies starting to potentially de-book reserves or not being able to put those assets onto their books and part of their asset base, which again, as I talked about earlier, is used as part of then their lending base for future projects as well because of their IPO.

The second impact, and this is, I think to reserves, and this is a really developing area. It's around carbon. Here in the US, we haven't seen a carbon tax yet. In Canada and parts of Europe, there's definitely starting to be requirements on carbon and CO₂ reporting, but there's a lot of talk by different industry associations and companies around cap and trade programs and carbon tax programs here in the US and it'll be interesting under the new administration if we see any movement around the SEC requiring these kinds of emissions reporting.

We haven't seen that kind of noise just yet, but it's still early on. And there's two ways. I think, that we need to be thinking about that the aspect of carbon. For some companies, it's going to be just another cost center on their reserves. They're going to have to potentially pay for their CO₂ or pay to have an offset or whatever it is. And so, it's going to need to be incorporated in that commercial aspect of their projects, whether that's a well or a facility or a whole development.

But I think there's going to be some opportunities for companies when we start talking about things like carbon capture technology, where if they are the company that is actually capturing the carbon and injecting it into the ground. So for those of you that haven't heard the acronym CCUS, so that carbon capture, utilization, and storage projects.

There's a lot of companies that are now starting to look at this and work in this space about how we can do that and I think this is going to be an emerging area with the companies that are going to have these kinds of technologies, carbon could actually be a revenue stream for them because of how they're managing it, injecting it, having other people paying them to take their carbon and the carbon dioxide off them.

So PRMS, SPE, sorry, a lot of people are familiar with the Petroleum Resource Management System, the PRMS standard that SPE has, but the SPE actually has another standard, the SRMS. And it's the Storage Resource Management System. It's currently used for gas storage projects and things like that.

But again, CO₂ is another gas storage aspect. So I think we might start seeing a little bit more of the use of that particular standard as we develop and see the increase of carbon capture and how we're managing carbon generally. So that's definitely an emerging space and something we're seeing a lot of compared to the stranded assets that we're starting to see some pressure on now, but there's a lot of implications because of changing regulation and changing public opinion on those reserve values and how companies are going to have to adapt.

Marty Stetzer: Deb, that was awesome. Speaking of the SPE-SRMS standard, when we were discussing the podcast outline, you brought up the SPE GAIA Program. Can you explain what it is and your role with this rollout?

Deb Ryan: Marty, thanks for bringing that one up. It's something I'm really passionate about. So I'm currently one of the North American regional directors for the Society of Petroleum Engineering, and I'm the North American liaison on the GAIA's Steering Committee for SPE. So those that haven't heard of it, GAIA is SPE's sustainability program, and we're in the process of rolling it out at the moment.

And what this really is, it's a framework that allows SPE and sections and chapters to build sustainability content for SPE members. It's a three by three by three, essentially programming matrix, where we've

**The SPE-GCS Podcast “Restatement of Reserves” Transcript
Deb Ryan – 07/27/2021**

got three principles that are overarching in everything we do, collaboration, aggregation, and mobilization of how we're working with each other and working with other organizations like OGCI and IPIECA and AAPG to get everybody talking about sustainability.

The framework is not so much about trying to say that as oil and gas, we're going to be moving away from using oil and gas. We know in the industry that oil and gas is going to be around for a long time. But how will we, particularly as petroleum engineers, how are we making decisions and operations decisions within our companies that are making sure that our operations are more sustainable, that we are not flaring, that we don't have the emissions leaks, that we're making sure that we are doing our operations to the best of our ability so that we're not impacting the planet, the environment and the people that live in and around our operations and all of us generally?

Within the pathways that we have, there's three pathways. The first is innovation, which as engineers, we are problem solvers. We're seeing so much innovation at the moment around energy transition, around natural capital and around social license to operate.

The second pathway is around measuring what matters. So I've talked a lot today about emissions and things like that. And I think this one's going to be really key. We're seeing a lot going on within the universities and the data science community, and again, the technology companies of how we're measuring emissions, how we're quantifying it, how we're actually understanding it.

And then the third pathway that I think is really critical and an area that I'm going to be focused on with the steering committee is around listening, communicating – and it's how are we talking to our stakeholders? How are we talking internally with our companies to make sure that we are all working together? How are we engaging with our external stakeholders? Whether that is the community, the regulators, or the general public.

So within these pathways, then there's three priorities that we're focusing on for each of them. And they are around energy transition, natural capital, and social license to operate. So it's a hugely powerful framework.

And I know we're running out of time, so I don't want to take up too much time around it, but it's really how we as the Society of Petroleum Engineering and the oil and gas industry, make sure we're on the right side of history when it comes to sustainable operations. And making sure that sustainability metrics are part of our operational KPIs, very much like safety ones now are, where historically that was not the case.

So working on making everybody within the industry sustainability literate is something I'm really excited that we're starting to have these conversations more broadly and outside of just the traditional sustainability and environmental engineers, but with everybody. So I'm super excited about it and working with not just Gulf Coast Section, but with all of the SPE members as we roll this program out.

Marty Stetzer: Deb, good luck with this initiative. Not only is it timely, but it's also very important as the industry evolves.

Deb Ryan: Thank you.

Marty Stetzer: Your insights in this session will sure be valuable to the SPE Gulf Coast audience and our own community of 10,000 EKT Interactive listeners.

I also want to thank you. You brought up the disconnect between sustainability and ESG reporting. One of our upcoming podcasts is with Bob Brackett of Bernstein, and he's going to talk about ESG reporting. So you've made me look really smart!

**The SPE-GCS Podcast “Restatement of Reserves” Transcript
Deb Ryan – 07/27/2021**

Do you have any recent publications or survey perceptions of energy that you recommend for our audiences to get more background?

Deb Ryan:

Thanks. So I'm currently working on a piece. I haven't quite titled it, but about generational perceptions of energy. I sent a survey around, I've got a number of responses and I'm compiling some of those results, but how are different generations really viewing energy, both inside the industry and external to the industry.

And so, we're putting out some of those through my LinkedIn and through some other avenues, I've recently published some opinion pieces with both ALLY Energy <https://allyenergy.com/> and also the Energy Newsbeat news platform. <https://energynewsbeat.com/>

So you can find some links to those on my LinkedIn page. Just yesterday actually, I know the tech papers were put out.

I'm going to be co-authoring a paper with John Benton and Evan Helpert at URTEC this year in Houston, titled *Unconventional Regulations: How the development of unconventional resources has impacted oil and gas regulations in the US*. The paper is for URTEC, The Unconventional Resources Technology Exhibition & Conference. <https://urtec.org/2021>

So I'm really excited to continue very much along these conversation pieces that we've had today with that paper, as we see the way the regulations are changing really quickly at the moment as unconventional development has accelerated and continues to. So that's just a couple of other things I'm working on at the moment, and that's kind of it.

Marty Stetzer: Thanks again, Deb. We'll certainly watch for the publications.

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If you are not an SPE member and would like to join, please visit www.spe.org/join – then you can enjoy all the SPE membership benefits.

I'd like to thank everyone for listening. Our company name **EKT Interactive** stands for Energy Knowledge Transfer. We focus on digitally capturing the extensive knowledge of industry experts like the one you heard today, Deborah Ryan.

If you are new to the oil and gas industry and want to quickly learn how this industry works, check out our resources at www.ektinteractive.com.

Thanks again.