March 2019 events to remember

- Mar 1 - Peace Corps Day
- Mar 5 - Mardi Gras
- Mar 12 - Girl Scouts Day
- Mar 15 - Ides of March
- Mar 17 - St. Patrick's Day
- Mar 20 - Spring Equinox
- Mar 21 - Purim

COMING IN April 2019:
Regional Meetings

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The Roustabout World
By: Casi Nichols

Casi Nichols with Spur Services LLC, located in Ringwood, OK, let us into the roustabout world at our February meeting. The company was started in 2013 out of a basic need for silt fencing by a customer. Silt fencing is the plastic liners you see on locations that prevent erosion. While this is a very simple process, there is a demand for it and Spur was created to meet it. The company was created by husband and wife duo, Charles and Casi Nichols alongside a high school friend Brenton Kirkendall. The trio has been meeting a variety of oilfield demands over the last 6 years causing the company to change and evolve with every need.

While the company no longer specializes in silt fencing, they do provide other erosion control for locations. The largest services of this type offered by the company is hydroseeding. This is a process of spraying a mixture out of specially designed machine. The mixture is made up of grass seed, fertilizer, tackifier, mulch and dye. Once a new location is made, there is a lot of exposed dirt that can erode and cause damage to the location. Hydroseeding is a way to make new grass grow on these areas. The mixture is sprayed through a cannon and then hardens, creating an immediate erosion stop. The grass then takes root and provides long term control. This service is also used when a location is downsized. Landowners like to see their property left in original condition, hydroseeding can provide that.

Hydroseeding is also considered a luxury. When the oilfield slows or cuts are made, this can be one of the first services given way to a cheaper, less effective service.

When met with downturn, any company has to find ways to evolve to meet the new demands of the oil patch. Spur found a niche running a short distance hot shot. When companies change out parts on locations, or a rig leaves, sometimes there are parts, pipe, etc left on location that must be cleaned up. Companies hired Spur to pick up these items and return them to the yards or deliver them to scrap yards to be recycled.

In 2017, Spur Services began working in the thick of the stack around Watonga providing
From the Editor

March is Desk and Derrick awareness month. What do you do to promote Desk and Derrick? I give my bosses a copy of every Insight, club newsletter, and information from meetings that I have received. By doing this, I keep them in the loop and potentially grab their interest. I also leave copies out in my office.

One thing I still haven’t done is ask for their support. Now you may ask why. The answer escapes me. I have been very fortunate in the past. When I first joined D&D, my dues, and meeting costs were always paid. When I decided to start attending Regional meetings and Conventions, my employer at the time paid for everything, including pocket money, and paid time off. When I changed companies, I lost the financial support, but was still given as much time off as I needed.

I interviewed with my current employer the week before the 2017 Convention in San Antonio, negotiated with them during a field trip, and started two weeks afterward. So it’s not like they didn’t know I was involved in ADDC. Actually, my leadership experience in D&D probably tipped the scales in their decision to hire me.

Why haven’t I been more proactive? Again I have no answer, maybe fear? I have been telling people for years that the worst that could happen is that I’m told no. So in honor of Desk and Derrick Month, I will take copies of donation forms and membership forms to my next division meeting. I will explain the benefits of membership, and give an enthusiastic presentation on why it is a mistake not to support ADDC. Details in April.

Until next month,

Maggi Franks
March 2019

Happy Desk and Derrick Awareness Month! Each year, as members, we try to make our communities, co-workers and employers aware of just how important our Association is in educating the world about energy. What does your club have planned for Desk and Derrick Awareness Month? I challenge each one of you to invite one person to attend your monthly March meeting and showcase the opportunities of membership in our Association.

We have the management company, Charity Rising, in place. We are currently feeding them the information they need to update the website. We ask for your continued patience; this is quite a task. I will keep you updated on this as progress is made.

Regional meetings are coming up next month. I encourage you to attend, and even consider attending another regional meeting besides your own. This is a perfect opportunity for networking and meeting new people within our Association.

Convention planning for Kansas City is well underway. The GAC has lined up some very interesting field trips for us and have some very informative seminars on the agenda. More information will be forthcoming. Please SAVE THE DATE:

68th Annual ADDC Convention
September 24-28, 2019
Kansas City, Missouri
Kansas City Marriott Country Club Plaza

Thank you all for your hard work and continuing support; you are truly appreciated as you are the foundation of this great Association.

“Do not let what you cannot do interfere with what you can do.”

John Wooden
a variety of services. Today this is the major part of their business. These services include valve and plumbing replacement and repair, power washing tanks, steaming frozen lines, dirt work, and plating tanks to name a few.

Saltwater disposals require a lot of plumbing and working valves to route fluid where it needs to go. Sometimes these valves, lines and tanks fail or have problems. This is where Spur Services comes in. They are called out to repair and/or replace items. The wells can only be down for a short period of time so this can be an “on call” service depending on severity of the problem.

Oilfield operators care about the environment and the appearance of their locations. When there are spills or tanks burp, there can be staining on the tanks and inside the containment. Spur gets called out to wash the tanks, the containment and in some cases put down new screenings to leave the location clean.

In the winter, lines can freeze up on sand separators, and frac jobs. Spur provides a steaming service to thaw out these lines so operators can continue working around the clock in any temperatures. This sometimes can be an ongoing service that lasts until jobs are completed if the temperatures dip too low. These workers are exposed to extreme temperatures and a lot of moisture, so it is not a job for the weak!

Spur Services works with other 3rd party companies to provide dirt work services. Putting in gates, cattle guards, well head guards, containments, commercial spraying, etc. are all construction activities that this company offers. They also, from time to time, help level locations and fill in uneven location roads.

While this company may be small in number of employees, they are strong in services offered to the oilfield plays in Northwest Oklahoma. The owners are on location every day and provide excellent customer services to keep the work coming in on a daily basis. These services are not for the faint of heart and Oklahoma weather is truly relentless all year round. Roustabouts are in the elements, providing hard physical labor, day in and day out and sometimes all night long. This profession is one that seems to go unnoticed sometimes but is definitely a necessity to keep the industry going.

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Earth Day & Spring Energy Fair

Energy Efficiency & Sustainability Displays, Plus Refreshments & Giveaways
Free & Open to the Public

Monday, April 22 • 3 – 5 pm

Eastern Henrico Recreation Center, 1440 N. Laburnum Avenue
State reaches $7M agreement over 1,400 abandoned oil and gas wells

By Reid Frazier, State Impact Pennsylvania
March 12, 2019

This story originally appeared on StateImpact Pennsylvania.

The Pennsylvania Department of Environmental Protection announced it reached an agreement with an Alabama company over the costs of plugging 1,400 abandoned conventional oil and gas wells in the state.

The agreement requires the company to put up a $7 million performance bond to cover plugging costs for the wells, and sets a schedule for the company to either plug all the wells or put them into production over the next 14 years.

“This agreement is a win for the commonwealth because it ensures that over 1,400 oil and gas wells are properly maintained or plugged and that these operators, not Pennsylvania citizens, bear the full cost of operating or plugging them,” DEP Secretary Patrick McDonnell said in a statement.

Most of the wells are in western Pennsylvania.

The agreement covers wells owned by Birmingham-based Diversified Gas & Oil Corporation and its subsidiaries, Alliance Petroleum Co. LLC and Diversified Oil & Gas, LLC. The company owns over 23,000 conventional wells in Pennsylvania. The company didn’t immediately respond to requests for comment.

A performance bond is a guarantee that a company will pay for cleanup costs of its operations if it ever goes out of business or enters into bankruptcy.

“It’s meant as a safeguard so that the Commonwealth doesn’t have to bear the full cost of a site if an operator should walk away,” said DEP spokeswoman Lauren Fraley.

Under current state law, any company can put up just a single, $25,000 well-plugging bond to cover as many conventional oil and gas wells as it wants.

But last year, DEP found Alliance and two other companies it was buying conventional wells from were out-of-compliance on over 1,000 wells. It ordered Alliance and the two companies to plug them.

After the companies appealed, the two sides entered into the consent order and agreement March 7. The end agreement stipulates the company set aside $5,000 per well for plugging costs, even though the actual cost to plug a well can be $20,000 or “much, much higher,” Fraley said. She said the state settled on the lower amount because “there was no guarantee that DEP would get this ($20,000) bond through litigation.”

The DEP has an inventory of over 8,000 orphaned and abandoned wells across the state, but the actual number is likely much higher, Fraley said.

“We anticipate as many as 560,000 are in existence that we just don’t know of yet,” Fraley said. “There’s no responsible party and so it’s on state government to pay to have those potential environmental and public health hazards remediated.”

The state considers any well that doesn’t produce oil and gas for a calendar year to be an abandoned well.

Methane from abandoned wells can get into underground well water and into peoples’ homes, posing a health and environmental threat. In addition, the wells can leak oil and brine into the environment.

The agreement requires the company to either plug or place into production at least 50 wells a year, and to complete this process for all 1,400 wells by 2033, though the agreement allows the company to ask for a five-year extension.

In addition, the company will have to put up an additional $20,000 to $30,000 bond for any future abandoned wells it acquires.
I’ve come across different versions of this famous “pot roast” parable but regardless of the rendition, each one demonstrates the difference between people and organizations experiencing mediocrity and those achieving greatness.

A mother was preparing a pot roast for her family’s Easter meal while her young daughter helped. Knowing her daughter was very curious, she clarified each step. As she was preparing to put the pot roast in the oven, the mother explained, “Now we cut the ends off of each side of the meat.”

As young children are apt to do, the daughter asked, “Why?” The mother thought for a moment and replied, “Because that’s the way it’s done. That’s how your grandma did it and that’s how I do it.”

Not satisfied with this answer, the girl asked if she could call her grandma. The young girl called and asked, “Grandma, why do you cut the ends off the pot roast?” Her grandma thought for a moment and said, “Because that’s the way it’s done. That’s how my mom did it and that’s how I do it.”

Still not satisfied, the young girl called her great-grandma, who was now living in a nursing home. “Great-grandma,” she said, “Why do you cut the ends off the pot roast?” Her great-grandma said, “When I was a young mother, we had a very small oven. The pot roast wouldn’t fit in the oven if I didn’t cut the ends off.”

What this parable teaches – to children and business leaders alike – is that asking “why” can help you get to something deeper and more meaningful.

That said, I think the worst answer you can get back is some version of “because we’ve always done it this way.” That’s not an explanation, it’s a cop-out. It’s also the answer that leads organizations to their inevitable decline. While it’s important to respect tradition, it’s critical to never assume that the way something has been done is the way it should be done. That logic disregards changing dynamics, be it related to the market, company culture, technology or other factors.

Any leader who answers a question in the vein of “because it’s always been done this way” is following, not leading.

Why can’t we put a PC on every desk? Why wouldn’t people prefer their music in a digital format? Why aren’t more people driving electric cars? Why isn’t travel more fun?

Bill Gates, Steve Jobs, Elon Musk and Richard Branson made their marks by asking “why” and then thinking about the answer in new and different ways.

Questions, especially those challenging the status quo, should always be welcome within an organization. They are also something that should be asked to clients and partners. Understanding the “why” behind
a request or motivation will often shed light on what someone is really needing or looking to accomplish.

I can think of several situations where our account teams were asked to run a series of last-minute “urgent” tasks for a client. Wanting to provide great service, some managers just jumped into the task, spending an entire day on the request and pushing their other work aside.

Other managers took a different approach and asked about the “why” behind the request. More often than not, these managers would learn that their client was wanting to justify something to their boss. By taking the time to dig a bit deeper, they were better able to provide the supporting evidence their client wanted and do so in a way that took far less time and effort.

To align excellence and innovation, try thinking about your organization as an open source operating system. Ideally, you want everyone to work from the same foundational “code” to help ensure consistency and high performance. Yet, it’s also important to recognize that “bugs” can and will exist or be discovered over time. The only way to readily identify and fix them is to encourage every team member within the company to point them out – and back them when they do.

Especially as your company grows, it’s also necessary to upgrade your operating system with new features and functions; understanding what those need to be usually starts with someone asking “why.”

The why question you want to avoid is, “why didn’t we do that sooner?”

**Quote of the Week**

“Millions saw the apple fall, but Newton asked why.” - Bernard Baruch

Robert Glazer
Founder & CEO, Acceleration Partners
Colorado residents seek to block major oil and gas project

By DAN ELLIOTT - 3/11/19 10:07 AM

DENVER — Frustrated residents of a Denver suburb say state law is forcing them to participate in a major oil and gas drilling project against their wishes, so they launched legal challenges with potentially significant consequences for the industry.

Backed by a federal judge, they have a chance this week to ask state regulators to block multiple wells planned within about 1,300 feet (400 meters) of homes in the city of Broomfield.

The dispute is a microcosm of a broader battle in Colorado, where burgeoning subdivisions overlap with rich oil and gas fields, bringing drilling rigs and homes uncomfortably close.

The battle is playing out on multiple fronts. Broomfield residents are taking their case both to state regulators and federal court. In the Legislature, majority Democrats are pushing legislation that would give the Broomfield residents and others like them powerful new weapons to keep drilling rigs away from their homes.

In Broomfield, about 20 miles (32 kilometers) north of downtown Denver, Extraction Oil and Gas wants to drill in open areas amid the Wildgrass neighborhood of roomy new homes.

A group called the Wildgrass Oil and Gas Committee says the wells are dangerously close to their homes, although they would be beyond the 500-foot (150-meter) setback required by the Colorado Oil and Gas Conservation Commission, which regulates the industry.

They also argue that state laws is forcing residents who own the mineral rights under their property to lease or sell them to Extraction through a process called forced pooling. It allows the oil and gas commissioners to require all the owners of nearby minerals to sell or lease them to an energy company in exchange for a share of the profits.

They also argue that state laws is forcing residents who own the mineral rights under their property to lease or sell them to Extraction through a process called forced pooling. It allows the oil and gas commissioners to require all the owners of nearby minerals to sell or lease them to an energy company in exchange for a share of the profits.

Created a century ago, forced pooling was designed to prevent the proliferation of oil derricks. Landowners were scrambling to drill their own wells to keep a neighbor’s well from grabbing their oil. Forced pooling allowed a single well to gather the oil, and the income was distributed among the owners.

In Broomfield, some mineral owners are resisting.

“We did not have any interest in going into business with an oil and gas company,” said Lizzie Lario, a member of the Wildgrass group, who along with her husband owns the mineral rights under their home that would be included in the project. She said she did not want to participate in something that could result in spills, fires and explosions so close to homes.

Many states have forced pooling laws, though some require a certain percentage of owners to consent before a pooled well can proceed. Colorado allows forced pooling with the approval of a single party, provided they have the means to get the minerals out.

The Wildgrass committee said the oil and gas commission repeatedly delayed a hearing on their objections, so they filed suit, asking a federal judge to rule the forced pooling law unconstitutional.

The judge hasn’t ruled on the lawsuit, but he ordered the commission to hold the long-delayed hearing. It’s expected to take place Tuesday.

Kate Merlin, the Wildgrass committee’s attorney, said residents want the commission to deny the forced pooling application on the grounds that Extraction has not shown it’s capable of developing the project in a way that’s economically sustainable and that protects public safety.

Extraction spokesman Brian Cain said the company met with Broomfield officials and a citizens task force more than 28 times over two years and adopted 95 percent of the task force’s recommendations. The buffer zone around the well site is four times the state requirement, he said, He called Extraction’s operating agreement with Broomfield “the gold standard in Colorado.”

Forced pooling is critical to the oil and gas industry in Colorado, said Scott Prestidge, a spokesman for the Colorado Oil and Gas Association. Without it, some wells would not be financially viable.

Forced pooling combined with horizontal drilling — well bores that penetrate straight down, then bend outward laterally for thousands of feet — make it economical to drill in the oil field north of Denver, he said.

A single site with horizontal wells extending two miles (3.2 kilometers) can replace as many as 18 vertical wells, he said. That makes it cheaper to operate and control pollution, and it reduces the amount of land and roads required.

Prestidge declined to comment on the forced pooling lawsuit or the specifics of the oil and gas bill making its way through the Legislature. Among other changes, the bill would require the consent of at least 50 percent of the mineral owners affected before forced pooling could proceed.

Democratic lawmakers said they consulted with oil and gas companies on the bill, but Prestidge said they never got to review the language or fully grasp the intent before it was introduced.

“Right now there are significant concerns with the piece of legislation that is being rushed through the process and has several elements within it that could use some constructive conversation,” he said.
Senate votes 57-0 against Green New Deal

By Alex Mills

The Green New Deal has strong verbal support from some members of Congress, but when it comes to putting their names on the dotted line not one of the 100 U.S. Senators vote for it this week.

The Senate voted 57-0 against passage of the Green New Deal, the new environmental gimmick of Senator Ed Markey (D-Mass.) and Rep. Alexandria Ocasio-Cortez (D-NY). There were 43 “present” votes.

Some of those voting “present” were Senators who have announced their candidacy for president, including Kirsten Gillibrand (NY), Bernie Sanders (Vt), Cory Booker (NJ), Kamala Harris (Ca) and Elizabeth Warren (Ma).

Even Markey decided to vote “present.” He said he wanted more debate on the issue before calling on a vote therefore he would vote “present.

The Green New Deal was introduced shortly after Democrats gained a majority in the House of Representatives this year.

House Speaker Nancy Pelosi and Senate Minority Leader Chuck Schumer both have appointed new committees on climate change, and many Democrats have announced their support for a new program with 12 Senators and 90 House members signing on as co-sponsors.

The Green New Deal actually entails much more than its stated goal to end oil, gas and coal development in the U.S.

The bill seeks massive restrictions on future use of fossil fuels and “decarbonizing” the economy by 2030, and it includes the goal for achieving 100 percent of national power generation from renewable sources.

Green New Deal’s web page does not offer potential methods to achieve these lofty goals except through government subsidies and mandates.

According to its web site, the Green New Deal also includes:

- government financed and managed programs guaranteeing a job at a living wage for every American;
- “health care through a single-payer Medicare-for-All program”;
- “a tuition-free, quality, federally funded education system from pre-school through college”; and
- “the right to decent affordable housing costing no more than 25 percent of income”; and a
- “right to accessible and affordable utilities — heat, electricity, phone, internet, and public transportation — through democratically run, publicly owned utilities that operate at cost, not for profit.”

There is much more that includes “ending the war on immigrants”, federal “support” for locally-owned media, and “reducing military spending by 10 percent.”

The Green New Deal comes at a time when the U.S. has entered a new era of oil and natural gas production that has made it the world’s leading producer of both commodities. The increase in petroleum supplies has created a softening of price of energy to consumers, reduced the nation’s dependence on foreign oil, and is a major contributor to economic prosperity.

The Green New Deal gets plenty of lip service, but not much support when the votes are counted.

Alex Mills is the former President of the Texas Alliance of Energy Producers. The opinions expressed are solely of the author.

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Oil and gas producers place faith in AI to boost margins

Advances in digitalisation are helping drive efficiency gains and reduce costs

At a time of low oil prices, artificial intelligence (AI) is offering new hope to executives in the oil and gas sector that healthy margins are still achievable.

It is in upstream operations, where field developments can cost tens of billions of dollars, that AI’s potential is perhaps most keenly anticipated. BP’s chief executive of upstream Bernard Looney told a conference last year that AI, combined with supercomputing, “is helping us to see our world through new eyes”, adding: “We can uncover resources. We can compare wells instantly. We can pinpoint corrosion risks by applying machine learning to 40 years’ worth of data.”

In other words, through digitisation and the use of AI, there may be new opportunities to extract more product from oil and gasfields, with less capital investment.

“A low-price oil environment has significant implications in terms of spend and cost,” observes Chris Ganje, a former group technology adviser at BP and now chief executive of AI start-up Amplyfi. “High-cost assets get stranded. Exploration often takes a big hit.”

As part of his work at BP, he identified digitisation as the company’s best chance of reducing cost and boosting efficiency.

“Artificial intelligence is a natural step on from this, since it enables companies to take the data flowing from their digitization efforts and use it to understand the best opportunities to improve performance,” he says.

Oil and gas companies have collected a great deal of data for decades, says Simon Tucker, energy partner scientists. “AI promises to enable machines to shoulder a great deal of that work — and get it done much faster, he adds.

“Executives at oil and gas majors have realised in recent years that AI is not an area where their company can afford to be a ‘fast follower’, according to Mr Tucker. “They need to be at the front of the curve, reaping the benefits.”

Huge amounts of computing power and data storage are still needed to sift through seismic data images and produce drilling simulations that help maximise likely production. But these are now more accessible at lower cost through cloud technologies. For many companies in the sector, that opens up opportunities to explore more of the data they collect, in finer detail, without the need to make further substantial investments in their own computing facilities.

Last year French oil company Total announced it was partnering with Google Cloud to jointly progress in production is more patchy. This is because data in these environments must be drawn from sensors, meters and actuators embedded in a wide variety of machinery and assets: drills, wellheads, vessels and field equipment, for example.

Bringing all that field data together in coherent formats for analysis involves a huge data integration effort. This is a challenge that is frequently complicated by limitations in connectivity, says Mr Tucker of Infosys. Many oil and gas companies struggle with these problems — but they are unlikely to achieve all their available efficiency gains without overcoming this hurdle, he says.

Drilling continues to represent an expensive and risky investment for oil and gas companies. AI could go a long way in helping boost life-long field production at cheapest cost by helping to predict the sites most likely to offer the easiest and cheapest extraction — and then ensuring that the maximum resources are drawn from that site.

At the same time, AI might also shed useful light on drilling tasks, by keeping a real-time eye on the condition of machinery and identifying risks to work disruptions by analysing data such as seismic vibrations, strata permeability and thermal gradients.

“Upstream is where the real action and investment is right now when it comes to AI in oil and gas,” says Shervin Khodabandeh, senior partner at strategy firm Boston Consulting Group. “In a lowprice oil environment, delivering as much product as possible with the least risk and at the lowest cost just about trumps any other concern.
March is Desk and Derrick Awareness Month!

This is the time of year when prospective new members who are interested in the oil and gas or related industries are invited to attend our business meeting to learn about the benefits and opportunities the association has to offer.

The Association of Desk and Derrick Club (ADDC) is celebrating more than 60 years of service to the nearly 1,300 members employed in or affiliated with the petroleum, energy and allied industries, ADDC is comprised of 48 clubs within 4 regions throughout the United States and Canada.

GREATER KNOWLEDGE—GREATER SERVICE was chosen as the motto in 1957 and continues to provide motivation to continue on the road to education.

Our Mission: to enhance and foster a positive image to the global community by promoting the contribution of the petroleum, energy, and allied industries through education by using all resources available.

Our Values:

Integrity/Accountability

• I walk my talk; I do what I say I will do.
• I keep and follow through on my commitments.
• I am honest and respectful.
• I own my mistakes as well as my successes.

Leadership

• I am a positive servant mentor.
• I am approachable by membership.
• I delegate appropriately.
• I listen to what others say.

Professionalism

• I attack problems, not people.
• I speak with respect to others.
• I dress appropriately.
• I am prepared and pay attention to detail.

Teamwork

• I cooperate and collaborate.
• I demonstrate open-mindedness.
• I communicate proactively and frequently.
• I present a united front.

Our current local membership is at 34 members. Our club offers some very educational meetings that can be beneficial to your employment. We host an Annual Golf Tournament and are also able to participate in other golf tournaments such as SPE, NATPL and Alliance Energy. We are also able to talk to our area elementary school students about our industry through MOLU (Mobile Oilfield Learning Unit), Region 9 and Project Back to School. We also offer some very fun-filled field trips and seminars during the year. Our club has so much to offer that it’s a shame not to share it with other potential members. So, if you know of someone that my be interested in attending our March meeting, call and invite them to attend!

From the March issue of the Desk and Derrick Dateline – Wichita Falls Club
Without federal help, local governments are trying to save coal

Deals to purchase failing coal plants have different results around the country.

MEGAN GEUSS - 3/12/2019, 1:16

As the Trump administration's attempts to save coal have stalled, a record number of coal plants were shut down or scheduled for shut down in 2018.

The federal government has floated extra compensation for coal and nuclear plants, it has tried to use federal wartime powers to mandate that coal plants stay open, and it has rolled back the Clean Power Plan in the hopes that fewer regulations would help coal power plants stay solvent. Still, though, coal plants close and threaten to close largely because coal is more expensive than natural gas and renewable energy, and it's more cost-effective for utilities and energy companies to retire old plants than to refurbish them.

The federal government is still working to boost coal. In yesterday's budget proposal, the Trump administration proposed extensive cuts to a variety of renewable and efficiency programs run by the Department of Energy and the Environmental Protection Agency, but it said it wanted to increase the Bureau of Land Management's coal management program funding by $7.89 million. In addition, the Office of Fossil Energy Research and Development saw a proposed increase in funds by $60 million.

But in case that doesn't work, local governments and impacted communities are now taking matters into their own hands, trying to keep dying coal plants open, with mixed success.

**Wyoming's “Find a Buyer” rule**

Yesterday, Wyoming's Governor signed a bill that will require utilities to attempt to find a buyer for coal plants that they want to retire.

Generally, a utility in Wyoming can apply to the Wyoming Public Service Commission for "cost recovery," that is, charging customers more or different rates for electricity based on the investments that the utility made or plans on making. But this recently passed bill mandates that the utility cannot recover any costs related to retiring a coal plant unless the utility has attempted to sell the coal plant to another buyer.

In addition, if the utility finds another buyer, it is required to buy electricity from that coal plant buyer as long as the price of that electricity is below the avoided cost to the utility of retiring the plant. But Wyoming regulators can determine what that avoided cost is, including "The value of any reliability benefits associated with the operation of the facility," or any other factor they deem relevant. (Coal proponents often cite coal's "reliability" as a reason why it should be preserved, although coal still suffers during flooding and freezing events.)

Under the new law, utilities can't buy cheaper electricity if it's available, nor can they recover costs "associated with new electric generation facilities built, in whole or in part, to replace the electricity generated from one (1) or more coal fired electric generating facilities located in Wyoming and retired on or after January 1, 2022..."
Electricity cooperatives are exempt from the law.

**Coal-fired server farm and/or bitcoin mine?**

Some smaller coal plants have already found buyers without a government mandate. Earlier this month, the *Billings Gazette* reported that a small, 107MW coal plant outside of Hardin, Montana, found a buyer in a company called Big Horn Datapower Holdings LLC.

Little is known about the company, but Ars discovered a similarly named company listed in Delaware. The company was incorporated in October 2018, and its registered agent is a company called Cogency Global, Inc. When Ars contacted the registered agent, a representative said Cogency rarely knew anything about its clients' business, and its function as registered agent was to forward official documents to the owners of the company.

But the *Billings Gazette* said the name of the company suggests that it is a cryptocurrency mining outfit that city officials discussed months before as a potential buyer. Minutes from Hardin's City Council Meetings (PDF) frequently refer to a "server farm" as a potential buyer. "The power plant has joined with a server company and the project is expected to create fifty to sixty long term jobs," minutes from the December 2018 meeting read.

Rather than partner with Rocky Mountain Power, the old owner, the Federal Energy Regulatory Commission (FERC) appears to have approved a sale to Big Horn Datapower. "Attorneys for Rocky Mountain Power told The Gazette in 2018 that the Hardin plant would need up to $15 million in improvements to serve a data center, including transform-
ers that would reduce the voltage coming from the plant," according to the *Billings Gazette*.

Navajo plant impasse

One of the largest coal-fired power plants in the US is the Navajo Generating Station. Its owners decided to close the plant in 2017, but the economic ramifications have had local leaders scrambling to find a new buyer. The coal plant and its accompanying coal mine employ hundreds of Navajo Nation people and supply the tribe with $40 million in royalties every year, according to the Associated Press.

Last year, Peabody Energy, which owns the mine that supplies the Navajo Generating Station, hired a consulting group to find a buyer for Navajo to keep it running. By September, the two front-runners most interested in an acquisition of the power plant backed out.

In response, the Navajo Nation tasked its Navajo Transitional Energy Company with exploring whether it ought to buy out the coal plant itself. But according to the Associated Press, those talks have recently been suspended over concerns about who will pay for the environmental cleanup after the coal plant has really, truly reached the end of its life. The current owners want the Navajo Transitional Energy Company to take over any known or unknown liabilities associated with plant cleanup. Unknown liabilities would include changes to decommissioning regulation.

A meeting of Navajo Nation Council delegates on Sunday brought together people who are for and against purchasing the coal plant. According to New Mexico's *Farmington Daily Times*, split opinions on the venture still prevail.
Why Are Fewer Women Employed In The Oil And Gas Industry Than Men?

Answer by Katie Mehnert, CEO at Pink Petro, on Quora:

“What’s a pretty young lady like you doing in a dark, dangerous business like oil and gas?” That’s what a friendly man on a plane asked me as I was flying back to Houston.

Welcome to the energy sector, where the forces that can limit women’s professional opportunities are magnified. It’s to little surprise that while women are nearly half the workforce, they make up only 15% of the oil and gas industry -- a number that drops further among higher paying technical jobs.

Some of this is cultural. There’s an outdated idea that women can’t, or don’t want to, handle physical labor such as working in mines or on pipelines. And some people still believe women aren’t as good at the business side -- being bosses, negotiating deals, and more. But fortunately, at least in public statements, most of the industry no longer professes these beliefs.

Instead, there are other forces at play that everyone should look at closely, because they can strike any sector.

Short-term thinking

The oil and gas industry is dependent on the volatile price of crude. That’s inevitable. But a big result is that industry leaders get caught up in short-term thinking in general. When you can barely see past the next spike or drop in the markets, you don’t give a lot of thought to where your industry will be in a decade. We saw this after the oil bust of the 1980s. Facing short-term challenges, the industry didn’t put efforts into hiring for the future, let alone building gender equality and diversity. Now, the long-term consequences of that failure are clear.

The energy sector remains one of the least gender diverse sectors in the economy, despite recent efforts to promote and encourage women’s participation,” an analyst with the International Energy Agency wrote in March. “This is especially important given the role that women can often play as key drivers of innovative and inclusive solutions.”

Failing to make gender equality a value

Another major factor is that not enough industry leaders have made the decision to declare gender equality a value. Instead, executives are often quick to call this concern a “priority.” This may sound like just a semantic difference, but in reality it makes a huge difference. When you value something, you don’t just talk about it as a goal. You build it into your culture so that it influences everything you do.

The industry did this with safety, declaring it a value. (Companies such as Total and the industry group American Petroleum Institute call it a “core value.”) Huge strides followed. It’s time to do the same for gender equality.

Making the sector desirable

Perhaps the biggest struggle of all will be changing how the energy sector presents itself. Leaders need to show women why it’s a great place for them to work.

There are efforts under way. The “Power Past Impossible” campaign is designed to present the sector in a new way, including by highlighting women. I launched Experience Energy to help energy companies and talented women find each other.

Many organizations are emphasizing that energy jobs bring higher salaries. Studies also show that women are especially concerned about climate change, and some experts believe having more women leaders in energy could help improve the effort.
to combat its worst effects. To draw more female applicants for jobs, oil and gas companies should be sure to highlight the work they’re doing in new and renewable energies.

After oil and gas leaders at the World Economic Forum launched a call for action to close the industry’s gender gap, my organization, Pink Petro responded. We gathered stakeholders from across the energy sector and put out a report listing recommendations to create more diverse and inclusive cultures.

The steps we recommend include leadership development training; programs to promote STEM (science, technology, engineering and math) education for girls; diversity metrics and affinity programs. Oil and gas companies need to move fast. For any organization to compete, it needs top talent regardless of gender. Until my industry transforms how it attracts and retains that talent, it will be missing out on its most valuable resource.

New fuel cell could help fix the renewable energy storage problem

By Robert F. Service Mar. 12, 2019, 1:00 PM

If we want a shot at transitioning to renewable energy, we’ll need one crucial thing: technologies that can convert electricity from wind and sun into a chemical fuel for storage and vice versa. Commercial devices that do this exist, but most are costly and perform only half of the equation. Now, researchers have created lab-scale gadgets that do both jobs. If larger versions work as well, they would help make it possible—or at least more affordable—to run the world on renewables.

The market for such technologies has grown along with renewables: In 2007, solar and wind provided just 0.8% of all power in the United States; in 2017, that number was 8%, according to the U.S. Energy Information Administration. But the demand for electricity often doesn’t match the supply from solar and wind. In sunny California, for example, solar panels regularly produce more power than needed in the middle of the day, but none at night, after most workers and students return home.

Some utilities are beginning to install massive banks of batteries in hopes of storing excess energy and evening out the balance sheet. But batteries are costly and store only enough energy to back up the grid for a few hours at most. Another option is to store the energy by converting it into hydrogen fuel. Devices called electrolyzers do this by using electricity—ideally from solar and wind power—to split water into oxygen and hydrogen gas, a carbon-free fuel. A second set of devices called fuel cells can then convert that hydrogen back to electricity to power cars, trucks, and buses, or to feed it to the grid.

But commercial electrolyzers and fuel cells use different catalysts to speed up the two reactions, meaning a single device can’t do both jobs. To get around this, researchers have been experimenting with a newer type of fuel cell, called a proton conducting fuel cell (PCFC), which can make fuel or convert it back into electricity using just one set of catalysts.

PCFCs consist of two electrodes separated by a membrane that allows protons across. At the first electrode, known as the air electrode, steam and electricity are fed into a ceramic catalyst, which splits the steam’s water molecules into positively charged hydrogen ions (protons), electrons, and oxygen molecules. The electrons travel through an external wire to the second electrode—the fuel electrode—where they meet up with the protons that crossed through the membrane. There, a nickel-based catalyst stitches them together to make hydrogen gas (H₂). In previous PCFCs, the nickel catalysts performed well, but the ceramic catalysts were inefficient, using less than 70% of the electricity to split the water molecules. Much of the energy was lost as heat.

Now, two research teams have made key strides in improving this efficiency. They both focused on making improvements to the air electrode, because the nickel-based fuel electrode did a good enough job. In January, researchers led by chemist Sossina Haile at Northwestern University in Evanston, Illinois, reported in Energy & Environmental Science that they came up with a fuel electrode made from a ceramic alloy containing six elements that harnessed 76% of its electricity to split water molecules. And in today’s issue of Nature Energy, Ryan O’Hayre, a chemist at the Colorado School of Mines in Golden, reports that his team has done one better. Their ceramic alloy electrode, made up of 5 elements, harnessed as much as 98% of the energy it’s fed to split water.

When both teams run their setups in reverse, the fuel electrode splits H₂ molecules into protons and electrons. The electrons travel through an external wire to the air electrode—providing electricity to power devices. When they reach the electrode, they combine with oxygen from the air and protons that crossed back over the membrane to produce water. The O’Hayre group’s latest work is “impressive,” Haile says. “The electricity you are putting in is making H₂ and not heating up your system. They did a really good job with that.” Still, she cautions, both her new device and the one from the O’Hayre lab are small laboratory demonstrations. For the technology to have a societal impact, researchers will need to scale up the button-size devices, a process that typically reduces performance. If engineers can make that happen, the cost of storing renewable energy could drop precipitously, helping utilities do away with their dependence on fossil fuels.
Could Electricity Be A New Weed Killer?

Chris Bennett
March 12, 2019 10:08 AM

An old concept gets a new chance to combat weeds (Farm Journal)

One touch from old sparky and the current brings death by electricity. Could electricides serve farmers as the ultimate weed killer?

Against a backdrop of ongoing herbicide resistance issues and pesticide litigation, old and new technologies capable of sizzling weeds are attracting attention. RootWave combines a phalanx of cutting-edge electricide technology and aims for market entry in 2020. Lasco Lightning Weeder, an electrical discharge implement, is a late-1970s machine catching renewed interest from producers.

The concept and theory of electric control dates back to the 1800s, but successful mechanical transference to farmland was absent. However, the digital age has enabled technology to catch and pass supposition, according to Andrew Diprose, CEO of UK-based RootWave.

RootWave will partner with Steketee on a pull-behind unit covering eight to 12 rows using camera imagery to spot and zap weeds on the go, rolling close to 3 mph, with power sourced from the PTO. Essentially, visual recognition identifies weeds in real time and RootWave delivers a 5,000-volt jolt without disturbing the soil.

The scalable unit serves all crop types and the voltage is flexible, Diprose explains. Initially, RootWave targets weeds up to 2”. But the next step is to scale and adopt the technology to treat mature weeds as well.

Variations in soil types and moisture content sometimes require changes in voltage. There are also nuances with root type. “Fibrous or taproots aren’t an issue, but a rhizome may require multiple passes,” Diprose describes.

What about microbial activity subjected to electricity? RootWave has undergone environmental tests and Diprose says they don’t see it as a problem, though they await a definitive and scientific answer.

Cost? “This will start as cost-comparable with herbicides, but in time, the potential is strong for a lower than chemical cost,” he adds. “There are nearly no inputs other than capital depreciation.”

Almost 40 years on the market, Kevin Olson is the last Lightning Weeder dealer standing. Each year, he rents four units to soybean and edible bean growers in the Midwest and has several units for sale.

“This technology doesn’t hurt the soil; we’ve tested a lot and never found any negative results,” Olson explains. “There’s no damage to crops and no safety issues for drivers.”

A metal applicator bar is charged with up to 14,500 volts of electricity, powered by a PTO generator. According to canopy height, the bar can be dropped to the ground or raised just shy of 4’ high. Any vegetation contacted by the bar receives a full dose of voltage. However, Olson recommends 30% reduced voltage for early season weeds, depending on moisture.

“If you’re running the bar over 5” to 6” weeds or less, you don’t need full energy because the power is so great you will carry a continuous arc that will destroy the crop,” he explains. “Later in the season, mature weeds get the maximum dose.”

Lightning Weeder has two models: 24’ and 30’. The units can be front-mounted or used as a pull-behind unit. Olson suggests a tractor speed of 4 mph with low weed pressure and 2.5 mph with heavy weed pressure.

Olson intends to restart the manufacturing of Lightning Weeder. “I own the rights and I’ve been doing this since 1980. With a touch of the bar, the weed dies right down to the bottom of the root. Contact is death,” he says.
Welcome Back to the ADDC Store

Have you always wanted an ADDC shirt, and just didn’t know where to get it? How about a cap with our Logo. Or maybe just something small to put on your desk.

Now you can!!!

Three times this year we will be taking orders for a modest offering of ADDC promotional good. Orders will be placed on June 15th, August 30th and November 15th, and shipped within 10-15 days. Just think you can have a new Polo Shirt by Convention or Christmas! Items are available to members only. Orders must be placed by the cutoff date. No stock will be carried at ADO, so if you place a request after the order dates, your order will fall into the next quarter’s order.

There will be new items available this year, along with the caps, shirts and magnets offered in 2018. See a future Insight for the current listing!
While it seems to fly in the face of everything we believe and have been taught about nuclear power, it may actually be the safest form of power production that we have. Ironically, the immense potency of the power of splitting an atom is simultaneously what makes nuclear weapons so dangerous as well as what makes nuclear power so safe.

Despite high-profile nuclear disasters like Chernobyl in Ukraine (then the Soviet Union), Fukushima in Japan, and Three Mile Island in the United States, the deaths related to nuclear meltdowns are actually very few. In fact, climate scientists Pushker Kharecha and James Hanson discovered that overall, nuclear energy actually saves lives—their study found that up until now, nuclear power has already saved nearly two million lives that would have been lost to air pollution-related deaths from the contamination that would have been produced by other, more traditional, sources of energy.

Nuclear power is an incredibly clean form of energy thanks to its staggering efficiency. The uranium used to produce nuclear power has the ability to create a whopping one million times more heat than equal masses of fossil fuels or even gunpowder. Nuclear power has the valuable ability to create massive amounts of heat without creating fire, and therefore it produces no smoke. This means that it’s a much, much cleaner alternative as compared to fossil fuels, which cause seven million premature deaths per year (according to data provided by the World Health Organization) thanks to the massive amount of smoke produced by the industry.

While renewable resources like wind and solar are also much, much cleaner alternatives to the fossil fuel industry, with negligible levels of emissions, nuclear has a lot of benefits that renewables can’t compete with. One of these is that although nuclear plants create massive amounts of energy, they take up very little space thanks to their energy density. Even in places where the sun shines the majority of the time, like in California, a solar farm takes up 450 times more space than a nuclear plant to produce the same amount of energy.

On top of taking up far less space than renewable energy production, nuclear also requires a much, much smaller quantity of materials and therefore produces considerably less waste. Put simply, nuclear is far more efficient and energy-dense than either solar or wind. In fact, according to a fact sheet published by the Nuclear Energy Institute, the entire nuclear industry in the United States, one of the biggest energy-consuming cultures per capita in the world, produces just 2,000 metric tons of used nuclear fuel rods each year, or just a single soda can’s worth of waste per person served by nuclear energy per year.

Michael Shellenberger, president of independent research and policy organization Environmental Progress and a Time Magazine “Hero of the Environment,” sums the matter up simply: “the energy density of the fuel determines its environmental and health impacts.” In his think piece titled “Why Renewables Can’t Save the Planet” Shellenberger goes on to say, “It’s true that you can stand next to a solar panel without much harm while if you stand next to a nuclear reactor at full power you’ll die. But when it comes to generating power for billions of people, it turns out that producing solar and wind collectors, and spreading them over large areas, has vastly worse impacts on humans and wildlife alike.”

Despite the strong case for nuclear, however, it remains a hard sell in the United States thanks to a poor public image and overblown safety concerns as well as an adverse political climate. Even those politicians who are pushing for green energy reform are simultaneously pulling away from nuclear. With all of the solid evidence in its favor and an ever-increasing need to clean up our energy act, what more will it take for nuclear to become part of the United States’ energy future?
Solar farms in space could be renewable energy's next frontier

China wants to put a solar power station in orbit by 2050 and is building a test facility to find the best way to send power to the ground.

As the green energy revolution accelerates, solar farms have become a familiar sight across the nation and around the world. But China is taking solar power to a whole new level. The nation has announced plans to put a solar power station in orbit by 2050, a feat that would make it the first nation to harness the sun’s energy in space and beam it to Earth.

Since the sun always shines in space, space-based solar power is seen as a uniquely reliable source of renewable energy.

“You don’t have to deal with the day and night cycle, and you don’t have to deal with clouds or seasons, so you end up having eight to nine times more power available to you,” said Ali Hajimiri, a professor of electrical engineering at the California Institute of Technology and director of the university’s Space Solar Power Project.

Of course, developing the hardware needed to capture and transmit the solar power, and launching the system into space, will be difficult and costly. But China is moving forward: The nation is building a test facility in the southwestern city of Chongqing to determine the best way to transmit solar power from orbit to the ground, the China Daily reported.

REVISITING AN OLD IDEA

The idea of using space-based solar power as a reliable source of renewable energy isn’t new. It emerged in the 1970s, but research stalled largely because the technological demands were thought to be too complex. But with advances in wireless transmission and improvements in the design and efficiency of photovoltaic cells, that seems to be changing.

“We’re seeing a bit of a resurgence now, and it’s probably because the ability to make this happen is there, thanks to new technologies,” said John Mankins, a physicist who spearheaded NASA efforts in the field in the 1990s before the space agency abandoned the research.

Population growth may be another factor driving the renewed interest in space-based solar power, according to Mankins. With the world population expected to swell to 9 billion by 2050, experts say it could become a key way to meet global energy demands — particularly in Japan, northern Europe and other parts of the world that aren’t especially sunny.

“If you look at the next 50 years, the demand for energy is stupendous,” he said. “If you can harvest sunlight up where the sun is always shining and deliver it with essentially no interruptions to Earth — and you can do all that at an affordable price — you win.”

MAKING IT A REALITY

Details of China’s plans have not been made public, but Mankins says one way to harness solar power in space would be to launch tens of thousands of “solar
satellites” that would link up to form an enormous cone-shaped structure that orbits about 22,000 miles above Earth.

The swarming satellites would be covered with the photovoltaic panels needed to convert sunlight into electricity, which would be converted into microwaves and beamed wirelessly to ground-based receivers — giant wire nets measuring up to four miles across. These could be installed over lakes or across deserts or farmland.

Mankins estimates that such a solar facility could generate a steady flow of 2,000 gigawatts of power. The largest terrestrial solar farms generate only about 1.8 gigawatts.

If that sounds promising, experts caution that there are still plenty of hurdles that must be overcome — including finding a way to reduce the weight of the solar panels.

“State-of-the-art photovoltaics are now maybe 30 percent efficient,” said Terry Gdoutos, a Caltech scientist who works with Hajimiri on the space-based solar research “The biggest challenge is bringing the mass down without sacrificing efficiency.”

For its part, the Caltech team recently built a pair of ultralight photovoltaic tile prototypes and showed that they can collect and wirelessly transmit 10 gigahertz of power. Gdoutos said the prototypes successfully performed all the functions that real solar satellites would need to do in space, and that he and his colleagues are now exploring ways to further reduce the weight of the tiles.

THE ROAD AHEAD

China hasn’t revealed how much it’s spending to develop its solar power stations. Mankins said that even a small-scale test to demonstrate the various technologies would likely cost at least $150 million, adding that the swarming solar satellites he envisions would cost about $10 billion apiece.

Despite its exorbitant price tag, Mankins remains a staunch advocate of space-based solar power.

“Ground-based solar is a wonderful thing, and we’ll always have ground-based solar,” he said. “For a lot of locations, rooftop solar is fabulous, but a lot of the world is not like Arizona. Millions of people live where large, ground-based solar arrays are not economical.”

Mankins hailed recent developments in the field and said he is keen to follow China’s new initiative. “The interest from China has been really striking,” he said. “Fifteen years ago, they were completely nonexistent in this community.”
February 11, 2019

To: All Club Presidents

From: 2019 ADDC Nominating Committee

Re: Nominations for 2020 ADDC Officers

The 2020 Officers of the Association of Desk and Derrick Clubs will be elected at the 2019 ADDC Convention to be held in Kansas City, Missouri. The ADDC Nominating Committee is currently accepting nominations for the following 2020 ADDC Officers:

President-Elect
Secretary
Treasurer

The deadline for all nominations to be received by the Nominating Committee Chairman is June 7, 2019. Any nominations received after that date will not be considered by the Nominating Committee.

Requirements and procedures for submitting nominations and the duties of the Officers are described in the Association Bylaws and can be found on the ADDC website in the Guidelines section. All candidates for nomination to ADDC offices shall:

1.) Have served or be serving as Regional Director
2.) Nominees for Association President-Elect must have served or be serving on the Association Board
3.) Nominees shall possess knowledge of Desk and Derrick history and aims, and dedication to the Association’s purpose
4.) Nominees shall have sufficient time available for assigned responsibilities
5.) Be bondable.

The ADDC Officer Nomination Forms are available in the Forms section of the Members Only pages of the ADDC website (addc.org).

Please send all nominations by the June 7, 2019 deadline, including NOMN1, NOMN2, and NOMN2A forms, along with a photo of candidate to Linda Rodgers, Nominating Committee Chairman, via mail at the address above or via e-mail at lindar@pescoinc.biz.

Linda Rodgers
MOTTO
Greater Knowledge—Greater Service

PURPOSE
The Association of Desk and Derrick Clubs (ADDC), an international non-profit organization, is a premier provider of energy education and professional development. ADDC’s purpose shall be to promote the education and professional development of individuals employed in or affiliated with the petroleum, energy and allied industries, and to educate the general public about these industries as well as the companies and global communities the members serve.

MISSION STATEMENT
Our mission is to enhance and foster a positive image to the global community by promoting the contribution of the petroleum, energy, and allied industries through education by using all resources available.

2018 ADDC Board of Directors

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