The Friday Burrito

Recycled Chicken Schmaltz

Vol. XXIX #2
January 16, 2026

"Christmas carols always brought tears to my eyes. I also cry at weddings. I should have cried at a couple of my own."

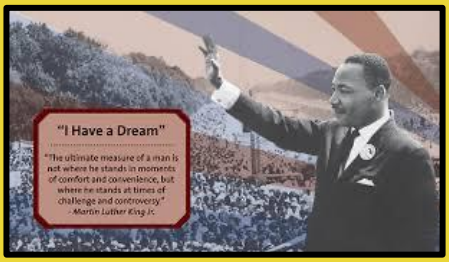
Ethel Merman

"We are made out of stardust. The iron in the hemoglobin molecules in the blood in your right hand came from a star that blew up 8 billion years ago. The iron in your left hand came from another star."

Jill Tarter

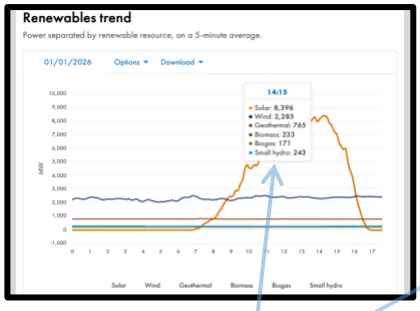
"Nothing tastes as good as skinny feels."

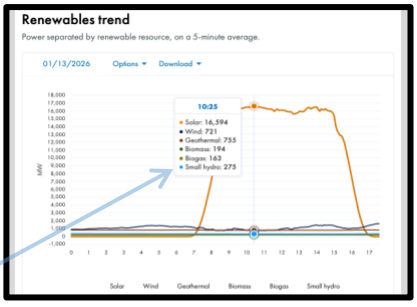
Kate Moss



It's been sunshine and lollipops around Southern California because we have been blessed with ample sunshine and variable winds. It's a pleasant break from the atmospheric rivers dropping so much rain and snow that California officially ended it decades-long drought. The U.S. Drought Monitor — the authoritative federal indicator — showed 0% of California in drought or even abnormally dry as of this month. This is the first time in about 25 years that has happened. Let's toast with a cup of water.

What a difference in the CAISO a heavy rain can make. The figure below





compares the renewables output for two days: January 1 when it was pouring across the state, and last Tuesday. The max solar output was higher by about 8,000 MW between the two days, respectively. Lest you think part of the difference was due to renewables curtailments, you'd be wrong. On New Year's Day the total curtailments were only 5% of that on January 13th. Also, the volume of energy that was charged into storage was 57% lower on the first than on the thirteenth. That's a wrap.

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Western States Ticker

CAISO YTD Renewables Curtailment:

As of 12/31/25 3,763,818 MWh

As of 12/31/24: 3,423,377 MWh

% of solar and wind output curtailed:

YTD as of Dec. 2025 4.55%

YTD as of Dec. 2024 4.48%

How about those NFL wildcard games last weekend? Being the tightwad that I am, I refuse to pay for online streaming access. The big players and profit-minded media outlets have closed all the loopholes that heretofore allowed me to watch for free. Nope. We cut the cable years ago and didn't notice any difference in NFL game-watching until this year. So, instead, I watch the 20-minute game recaps on YouTube, or in the case of the San Francisco 49ers game against the Eagles I listened on Sirius XM radio. I'm regressing technologically.

Are Biofuels More Than Tax Credits?

It's not often that I write about the biofuel sector, mainly because it is such a small part of the country's energy supply. However, it has its followers and leaders that are making a go at renewable energy from waste feedstocks that yield methane and hydrocarbon liquids. With that in mind, I read a Jefferies Equity Research analysis of a recent virtual conference with an impressive array of industry experts on biofuels and their respective outlooks for the sector in terms of markets and regulatory challenges.

First, I had to learn the nomenclature of the different biofuel types and related acronyms. For reference:

- Renewable Diesel (**RD**)
- EPA's Renewable Volume Obligations (**RVO**s)
- Renewable Fuel Standard (**RFS**) program — a federal rule that requires transportation fuel in the U.S. to include minimum amounts of renewable fuels such as ethanol and biodiesel each year.
- Small Refiner Exemptions (**SRE**)
- Renewable Natural Gas (**RNG**), and
- Renewable Identification Number (**RIN**); the tradable compliance credit used under the RFS. Each type of renewable fuel generates RINs based on its energy content compared to pure ethanol. A gallon of gasoline with a 10% ethanol blend by volume, for example, would have a tradable RIN of 0.10. A refiner selling gasoline must accumulate many gallons of fuel to generate one compliance credit. A proposal to cut RIN value by 50% for imported fuels or fuels made from imported feedstocks was one of last year's most contentious policy arguments.

Yes, the renewable fuels market is ringed with compliance standards that change often and are regularly contested in federal courts. However, we must press on. What did the Jefferies team learn from all these experts?

The RNG sector is shifting from rapid build-out to operational optimization and regulatory compliance, as most viable projects are already built or planned. One industry consultant reported that the project backlog has significantly declined from hundreds of proposals for landfill, dairy, and wastewater facilities to about ten percent of that.

What we believe…

Competition yields lower electricity costs. Stable and transparent rules and regulations promote private investment.

Private investors, rather than utilities, will spend money on new power plants and transmission facilities if they can earn a return that is balanced with the risks.

Private sector investment results in lower average prices without risking consumers' money.

However, when IOUs do the investing, the risks to them are minimal or non-existent because ratepayers effectively cover the utilities' costs.

Overcapacity lowers electricity spot market prices; yet retail rates can still increase in this case due to full cost-of-service regulation.

Markets work best when there are many buyers and sellers.

At-risk money will be put to investment where markets exist that are well regulated and yield credible prices.

And what we should do …

Believe in ourselves.

Actively support the creation of independent, multi-state regional transmission

Natural gas utilities procuring RNG for their pipelines are offering greener cleaner gas to customers. Corporations seeking to decarbonize operations (and hedge against "electrify everything" policies) are signing long-term RNG purchase agreements for fuels with lifecycle carbon intensity below zero. That is, the methane captured from waste streams earn so much climate credit that burning it counts as a net climate benefit. The credits are one of the strangest — and most powerful — financial levers in U.S. clean-energy policy at the moment.

RND remains lagging and handicapped because a lot of refinery projects had been announced but many are struggling to actually get built due to cost inflation, feedstock uncertainty, and policy risk.

The IRS tax benefit enacted through the Inflation Reduction Act continues to drive growth, especially in ethanol production. As reflected in Rule 45Z, the tax credit is calculated per gallon (or gallon equivalent) of qualifying clean fuels like renewable diesel, biodiesel, renewable natural gas, etc. and ranges from $0.20 per gallon up to about $1.00 per gallon. Credits are adjusted annually for inflation.

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organizations that coordinate policies with respective state utility commissions.

Support rules for resource adequacy that apply uniformly to all load-serving entities.

Enforce competitive solicitations by utilities for purchasing either thermal or renewable power.

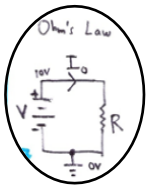
Support choice among retail electricity customers.

Advocate against policies that limit, through bid mitigation, merchant returns on investment that are comparable to utility returns.

Catch Some Z's

The SunZia Transmission Project and the CAISO's New Subscriber Participating Transmission Owner (SPTO) Model is the Perfect Match.

Click here to learn more about Ziad Alaywan



In addition to the perfect match from a transmission model perspective, New Mexico's wind profile peaks in the evening and at night, which complements many California Load Serving Entities' (LSE) supply portfolios, which are dominated by solar resources.

Independent transmission development is challenging even for an experienced team. For example, I had the opportunity to work with Pattern Energy on the Transbay Cable (53 miles of cables from the city of Pittsburg, CA (in the East Bay) to San Francisco (near Potrero Hill), 400 Megawatts (MW): ±200 kV DC) and the 35 miles of 345 kV that connects the 324 MW Broadview wind project in eastern New Mexico that is currently serving California load.

Over ten years in the making, Pattern acquired the SunZia Transmission Project (STP) in July 2022 and beginning this year, the project is finally coming to fruition. A truly remarkable endeavor, the project is designed to collect high quality wind produced in New Mexico and transmit it to a scheduling point between Arizona and the CAISO.

STP is a 550-mile ± 525 kV high-voltage direct current (HVDC) transmission line between central New Mexico and south-central Arizona with the capacity to transport 3,000 MW of clean, renewable energy to the Pinal Central substation which will become a scheduling point (see chart below, Segment 1). SunZia also secured 2,131 MW of firm Arizona transmission entitlements from Pinal Central to Palo Verde, which is a CAISO scheduling point (see Segment 2). Segment 3 is energy that is scheduled at Palo Verde serving CAISO loads.

California LSEs have taken advantage of this opportunity as they appear to have executed PPAs for about 1,520 MW SunZia wind.[1] This is about 70% of the 2,131 MW available to Palo Verde.

Entity	Capacity (MW)	Estimated Annual Cost ($million)	Basis for Estimate
Clean Power Alliance (CPA)	575 MW	$155 – $180	Scaled from SMUD benchmark (~$31million/100MW).
Ava Community Energy	250 MW	$68 – $80	Scaled from 15-year contract benchmarks.
Peninsula Clean Energy	220 MW	$57	Calculated: $858 million total over 15 years.
3CE / SVCE (Joint)	325 MW	$88 – $105	Combined 200 MW (3CE) + 125 MW (SVCE).
SMUD	150 MW	$41	Confirmed: Per SMUD 2024 Board Memo.

Using a 40% capacity factor, the PPA cost which I assume covers the wind energy, renewable energy credits (RECs) and transmission capacity all the way to Palo Verde range between $72/MWh and $90/MWh.

Pattern Energy (the developer) has placed the 550-mile HVDC line (Segment 1) under CAISO's operational control. This means CAISO operators treat the associated wind resources as if they were located inside California for the purposes of dispatch and reliability. It's important to appreciate that the pre-existing transmission elements between Pinal Central and Palo Verde (Segment 2) are separately owned by i) Salt River Project, ii) WAPA, and iii) Tucson Electric, and each utility manages their own operational flow but in aggregate the three are committed "firm" to SunZia Wind for 2,131 MW. Participants' usage rights and associated costs are summarized in the table below.

Participant Type – Subscriber	Transmission Access Charge (TAC)	Congestion Charges
Segment 1	*DC line is within CAISO BA. Transmission Owners recover their cost from the users of the DC line not the TAC. Subscription rate is estimated at $8.18/kW-month plus 2% to 3% losses for the 550 miles.*	*The user's subscription rights act as a "perfect hedge" against congestion costs between the New Mexico wind farms and Pinal.*
Segment 2	*Arizona transmission entitlements of 2,131 MW are not in the CAISO BA. TAC is not applicable, but subscriber pays transmission wheeling cost which ranges from $1.75/kW-month to $2.33/kW-month for firm transmission.*	*Not applicable*
Segments 3	*Once the energy hits the main CAISO grid (at Palo Verde), the TAC is assessed on the energy into the CAISO market.*	*Subscribers pay congestion, but they can get CRRs as a hedge.*

The remaining transmission is available under the non-subscriber (NSUR) rate which is approximately $14/MWh. To encourage market participation, the actual collection of this rate is suspended for two years. This means that for the first two years of operation, non-subscribers might be able to "wheel" across this path into CAISO without paying the full rate to Pinal on Segment 1, creating a temporary period of high competition at the Pinal Central hub.

It's time to apply the SPTO model to all non-CAISO California balancing entities, so we have one balancing area within the state. The SPTO solves many seams issues associated with integrating operation of multiple balancing areas that California has faced for the last 20 years.

[1] The information in the table is based on public board documents and financial filings, the annual costs for these PPAs are estimated. While "all-in" prices are often confidential, these figures represent the best available estimates based on public records.

To qualify, a fuel must have a lifecycle greenhouse gas emissions rate below a defined threshold — meaning emissions from production through combustion must be significantly lower than fossil fuels.

Fuels must be produced in the U.S. at qualified facilities, and recent updates require feedstocks to be sourced from the United States, Mexico, or Canada to qualify, strengthening domestic supply chains.

Britain Hammers Another Nail into Its Clean Energy Coffin

The NYT detailed a most peculiar situation about Britain's recent auction for offshore wind-power that will include a government guaranteed floor price for the energy. That fact alone should make consumers wary that taxpayers and electricity customers alike will be sharing the risk of building out 8,400 MW of offshore wind. The logic behind this folly establishes a new benchmark for inanity.

Per the article, "*The 8.4 gigawatts, a power capacity measure, that won support is the largest amount that has been achieved in an auction in Britain … The government holds regular auctions, roughly on an annual basis. Results have been improving after a failed auction in 2023 that produced no bids from developers. The government almost doubled its original budget for the recent auction to about £1.8 billion per year. To encourage renewable energy sources like offshore wind, Britain offers a price floor to provide certainty for investors. The average floor, or strike price, from the auction on Wednesday was about £91, or $122 per megawatt-hour …*" Here we have a perfect parallel to another clean-energy project in California called the Ivanpah solar-thermal station that abuts the California-Nevada border. The UK version should be named Ivanhoe because eventually it will be going in the same direction as Ivanpah. Gather ye Ivans while ye may. Government guarantees for debt and government succor through offtake price floors is the same concept. The thought is that without such, private capital won't show up to invest in these risky projects. Yes, and there's a good reason for that.

Add this gem: "*Political consensus for ambitious climate goals is eroding in Britain, but the government of Prime Minister Keir Starmer believes that an enormous bet on clean energy, especially offshore wind, is necessary to protect consumers from volatile fossil fuel prices.*" Ouch. Let me see. If we pay a lot of money for a generation resource that is variable, can't be dispatched, and adds wobbles to grid inertia, then it is a hedge against volatile fossil fuel prices. Did I get that right? You can't make this stuff up without the aid of psychedelic drugs. Kiss my blarney stone, bud.

Things in the Nation

Fanning the Flames of Affordability

I hate writing about affordability. Just hate it. There's nothing complex or mysterious about it aside from the factors that cause it. Affordability is simply the observation that prices for whatever are rising faster than either after-tax income or inflation. By either measure consumers are hurt. There are issues about housing affordability, auto affordability, college tuition affordability, our mow-and-blow gardener affordability, and of course electricity. Just to name a few.

Yet, as Suedeen commented in her Burrito column last week, "*Welcome to 2026, the Year of Affordability. What a political issue it has become!*" So true. No one can escape the grip that this non-technical issue will maintain on the political arena and, therefore, on journalists and their editors. That doesn't mean I enjoy discussing it, but it's important. Undeniably so.

Below, I touch on some reports and results of the affordability craze. It starts at the White House where most conflicts these days begin and never end. Yes, the Trump team plans to tackle electricity affordability possibly

in a future sweeping (now sleeping) Executive Order (EO). The journal Politico reported that President Trump doesn't want average Americans to pay higher electricity bills because of large energy users such as data centers — implying there may be a policy focus on cost allocation and utility rate structures as part of broader affordability concern. A more recent Politico dispatch elaborated on the topic: "*A bipartisan backlash against data centers has grown across the country, especially in areas seeing rising electricity bills. Elected officials are discussing new restrictions, and local resistance in 2025 forced companies to cancel some AI infrastructure projects, including a Microsoft development in Wisconsin.*"

Microsoft is the company that made the first move to acquiesce, announcing plans to pay higher electricity rates where it operates, such as in Wisconsin, and ensure its facilities don't drive up local utility costs. The WSJ reported: "*Trump's advisers are looking for ways to lower costs for Americans concerned about living expenses, including electricity bills … [Microsoft] committed Tuesday to paying high-enough electricity rates to cover the electricity costs of its data centers so they aren't passed on to consumers, replenishing more water than it withdraws locally and paying the full property tax rate. Many of the promises build on current practices in states such as Wisconsin that the company is now applying to its entire portfolio.*" The NYT Technology journalist also commented: "*Brad Smith, Microsoft's president, reiterated that Microsoft wants to pay for the electricity its data centers use and avoid affecting everyday customers … Microsoft and its peers have been saying for some time that they want to pay their fair share, but determining how much data centers should pay is not straightforward, creating fights in some states.*"

But let's step back a bit and dwell on this fad. I think affordability is a canard. You know, like I was told by *une charcutière* in Paris 45 years ago that the pâté I pointed to in the deli case was "*a la Monsieur Donald Duck*." A myth that if repeated enough times is considered to be true. An Op Ed in the WSJ claims that it is a ruse of Democrats intending to empathize with a wider audience (i.e., voters) into believing that Republicans are catering to the rich whereas the Ds are all-in for the average American. Columnist Barton Swaim writes, "*Democrats, hoping to encourage the belief that they can bring prices and incomes into some theoretically ideal relationship with each other, have lately been sprinkling the word into their talk like pepper … You don't have to deny the pain caused by recent inflation to acknowledge that affordability in the abstract, detached from any circumstance, is meaningless.*" I would add that even for specific commodities such as electricity the concept is vacuous. The remedies are sometime beyond ridiculous.

For example, Utility Dive reported that, Illinois Governor JB Pritzker last week, "*Signed the Clean and Reliable Grid Affordability Act, aiming to tackle rising electricity costs through the development of battery storage and virtual power plants, new planning processes, energy efficiency investments and other initiatives … The bill directs Illinois utilities to install 3 GW of grid-scale energy storage by 2030 and to develop programs that pay customers to harness the demand flexibility of resources such as batteries, smart thermostats and electric vehicle chargers.*" Man, will that cut electricity bills by … um … about as much as carbon emission reductions in Illinois will lower global-warming temperatures fifty years hence.

Separately, Utility Dive explained that Virginia's governor-elect Abigail Spanberger will usher in energy-affordability measures that haven't worked in California so I don't expect them to work in Virginia either. "*Their proposals include bills that would increase utilities' energy storage targets with the intention of lowering peak prices; expand utility efficiency programs for low-income households; establish a weatherization task force to improve energy efficiency; exempt small, portable solar energy systems from utility approval requirements; and improve load forecasting.*" Yeah. Aside from getting an overheated load forecast accurate (i.e., lower) the other factors will not cause electricity bills to plummet. Utility Dive might consider starting a companion publication called Electricity Bill Dive and track the progress of progressive state measures to reduce consumer agony.

ENERGYGPS

Grand Phunk Salsa a la Energy GPS

The Op Ed below is from the team at Energy GPS with Tim Belden as the lead author. You can reach the GPS team at sales@energygps.com for more information.

Observe the Sun Go Down on Us

One thing we do at Energy GPS is develop metrics to track what we think of as the health of the electricity (and natural gas) ecosystem. For example, for all U.S. markets we track once a year the generation-weighted value of wind and solar by trading hub. It is interesting to see how the results evolve over time. For the second straight year, CAISO's SP15 solar has taken the title of lowest value renewable in the country, coming in at a generation-weighted value of $12.62 per MWh in 2025. In contrast, the most valuable renewables are in the northeast, with NYISO Central Zone wind coming in at $55.34 per MWh. Of the twenty-eight technology/hub combinations that we track, the top four are located in PJM and the NYISO.

Let's take a look at the overall picture for solar in California. The table below shows the value for NP15 solar ($ per MWh), SP15 solar ($ per MWh), and Henry Hub natural gas ($ per MMBtu).

Table 1. 2023 to 2025 Solar-Weighted Prices in CAISO

	2025	2024	2023
CAISO_NP15_Solar_Weighted	$24.32	$24.78	$38.28
CAISO_SP15_Solar_Weighted	$12.62	$7.62	$23.98
Henry Hub Nat Gas	$3.53	$2.25	$2.53

NP15 solar continues to clear at a substantial premium to SP15 solar. Constraints on Path 26 are keeping some of the excess solar in the south from moving north to NP15. Although the levelized cost of solar in NP15 is higher than in SP15 (due to lower irradiance), the upgrade in value is clearly worth the slightly higher levelized cost. We can see that SP15 solar increased in value from $7.62 per MWh in 2024 to $12.62 in 2025, an impressive rebound. Some of this is attributable to higher natural gas prices, although the NP15 value is essentially unchanged from 2024 to 2025.

If we look at the results for SP15 on a quarterly basis we can unpack the story a bit. The table below shows SP15 solar values and Henry Hub gas prices by quarter for 2024 and 2025.

Table 2. SP15 Solar Value ($ per MWh) and Henry Hub ($ per MMBtu) by Quarter

	Q1		Q2		Q3		Q4	
	2025	2024	2025	2024	2025	2024	2025	2024
CAISO_SP15_Solar_Weighted	$0.08	$-2.76	$4.82	$-9.83	$25.98	$25.06	$18.06	$18.18
Henry Hub Nat Gas	$4.28	$2.43	$3.16	$2.04	$3.03	$2.08	$3.68	$2.42

Let's start with Q3 and Q4 – here we see higher natural gas prices in 2025 and solar-weighted prices that are unchanged from year to year. This is a pretty bearish sign for SP15 solar as you would hope the value would increase with a 50% increase in natural gas prices. We see almost a $15 per MWh value increase in Q2 with pricing going from -$9.83 to +$4.82. This increase is likely driven by changes in Renewable Energy Credit (REC) pricing from 2024 to 2025. In 2024 the Portfolio Content Category 1 (PCC1) RECs under the California RPS (Renewable Portfolio Standard) program were trading for as much as $75 per MWh which meant that some solar projects were willing to let prices go deeply negative before choosing to curtail. In 2025 the REC prices are much lower, which means the deeply negative offer prices from solar projects went away.

Back in 2022, CAISO SP15 solar was worth $47 per MWh. Those days are gone – perhaps forever. Load growth and battery additions offer the best hope for improved outcomes for solar in southern California. It's not clear exactly when that tailwind may show up. It doesn't seem like it will be 2026.

Shout Outs and Recipes

Fava Bean Medley with Chef Laura Manz

"*I had to laugh when I chose fava beans at the farmers' market and Bryan mentioned that we should pair it with a nice chianti. After our Silence of the Lambs moment, a bag of fresh shell-on beans came home.*"

Fava beans are simple to prepare. Soak the bean pods in water for approximately 24 hours. Remove and discard the pods. Sauté the beans in 2 Tbsp. of olive oil until they are tender and release the outer layer. Transfer to a paper towel and when they are cool enough to handle, peel that layer off to reveal the bright green bean.

I added my beans from a dozen large pods to a medley of chopped roasted vegetables including eggplants (4 small), zucchini (1 large), shallots (2 sliced), and cooked rotini pasta (1/2 dry cup). Toss with a dressing of ¼ cup olive oil, 2 Tbsp. of red wine vinegar, 2 Tbsp. of balsamic vinegar, and 1 tsp. of dried oregano. Sprinkle with Parmigiano-Reggiano cheese and serve warm.

Thanks, Laura. We are big on beans of all kinds although favas aren't my fave. I'm partial to black beans for soup with a hearty vegetable stock plus a Laurel Bay Leaf or two for outstanding flavor.

Odds & Ends (_!_)

I was absolutely relieved to read in last weekend's WSJ Health and Wellness section that waking up too early can be injurious to one's health. No cap, dude. The article's summary read: "*Sleep experts caution against the 5 a.m. wake-up trend, stating it can lead to self-defeat and depression for those not naturally inclined.*" Five a.m.!!! Are you kidding me? Do you want me to be self-defeated and depressed? I leave that early-morning duty to Jeff Richter so he can write a report to his clients before the day-ahead wholesale power markets kickoff. I don't do 5 a.m.

Nothing in our house seriously gets going before the clock strikes three, as in p.m. What happens before then is just the normal puttering around, grazing for food, finishing my daily Wordle game, and thinking about stuff. The pets need to be fed, the sheep need to be let out to pasture, and the cows need milking. I'll work the back 40 after lunch.

It would probably be healthier if we didn't watch Netflix until 2 a.m. Early to bed and all that. But Netflix knows how to package its product. Limited series means 8 one-hour episodes best I can tell. I'd rather watch a two-hour movie, but there are too few of those and too many of the others. And once you watch two episodes of even the dumbest series, you're hooked. You have to find out what happens next.

WESTERN POWER TRADING FORUM

The Winter Meeting will take place on February 18-20, 2026, at THE RITZ-CARLTON BACARA, SANTA BARBARA.

The Ritz-Carlton room block has sold out. Listed below are a few hotels that are nearby:

The Steward: 5.9 miles away

Hilton Garden Inn: 2.9 miles away

Courtyard Santa Barbara: 2.9 miles away

A waiting list for the Ritz-Carlton has also been created if there are any cancellations. If you would like to be added to that list, then please email Becky Gile with your name and preferred nights.

FLYING The nearest airport to Santa Barbara is Santa Barbara (SBA) Airport, which is 8 miles away.

FULL TO CAPACITY

Agenda

Thursday, February 19

9:00 a.m. (Shotgun start)—WPTF Golf Tournament

Separate registration required. Registered golfers will receive their tee time from frank@wptf.org

2 p.m. - 4 p.m.—Informal reception at the Cabana Terrace by the pool (advance sign-up required)

6:00 p.m. - 7:00 p.m.—Hosted Reception

7:00 p.m. - 9:00 p.m.—Dinner, Keynote Speaker Deputy Secretary of Energy James Danly
Presentation of the Jackie Pfannenstiel Memorial Award TBA

9:00 p.m. - 11:00 p.m.—Dessert Reception

Friday, February 20

8:00 a.m.—Buffet Breakfast

9:00 a.m. – Noon—Guest Speaker TBA

WPTF Consultant Briefings

Noon—Enjoy a meal at one of the property's eateries compliments of WPTF.

The below-the-belt section that follows appears only if you receive the red-meat edition.
Gba