

~ Energy Supply Issues ~



A new project called Advanced Clean Energy Storage has been launched in Utah by a consortium of partners including Mitsubishi Hitachi Power Systems to store energy in a salt cavern. The \$1bn project will be able to store as much as 1,000MW in wind and solar power in the form of hydrogen or compressed air by 2025. Umar Ali takes a look.

Having become a global market share leader for heavy duty gas turbines Mitsubishi Hitachi Power Systems (MHPS) has become an important part of the US' energy transition efforts, and has developed gas turbine technology that allows natural gas and hydrogen to produce power with even lower emissions.

However in many parts of the western US, there are times of day when production of renewable energy is higher than the demand for electricity. This can lead to negative energy pricing and restrictions on renewable generation.

For renewable energy to be viable in the long-term the excess power needs to be stored for later use, which requires a system with a large storage capacity to meet the demands of the entire western US.

A potential solution to the dilemma has come in the form of the Advanced Clean Energy Storage (ACES) project in Utah, which MHPS along with a consortium of partners announced on 30 May 2019. They are planning to develop 1,000MW of clean energy storage in the world's largest project of its kind. [Main body]

How salt caverns could transform renewable energy storage for the US

How does the ACES project work?

The ACES initiative makes use of a domal-quality salt formation owned and controlled by Magnum Development, a “geographically rare geologic formation” and the only known formation of its kind in the western US. Five salt caverns are already in operation for storage of liquid fuels, and Magnum is now developing options for renewable energy like wind and solar power to be stored as compressed air or hydrogen within this salt dome.

The project will initially be developed to store enough energy to serve the needs of 150,000 households for a year, and there will eventually be four types of clean energy storage deployed at scale. These energy storage technologies include solid oxide fuel cells, renewable hydrogen, large scale flow batteries and compressed air energy storage.

MHPS and Magnum plan to use their existing expertise to expand renewable energy assets in the western US.

“Magnum and MHPS are great partners,” said Magnum CEO Craig Broussard. “Magnum has the below-ground technologies necessary to store energy at utility scale, while MHPS has the above-ground technologies to supply electricity at grid scale, *(Continued on page 2)*”

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How salt caverns could transform renewable energy storage for the US

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“With the ACES initiative, we will dramatically accelerate the vision of a western renewable energy hub that we launched over a decade ago.”

Magnum’s site is located adjacent to Utah’s Intermountain Power Plant, which will allow the project to integrate with existing energy infrastructure in the western US.

“Central Utah is the ideal location for this project, and Utah is a business friendly state for projects like this,” said Broussard.

“Magnum’s site adjacent to the Intermountain Power Project is positioned to take full advantage of existing regional electricity grid connections, fully developed transportation infrastructure, ample solar and wind development capacity, a skilled workforce currently transitioning away from coal, and, of course, the unique salt dome opportunity.”

The project has strong support from the state, with Utah governor Gary Herbert saying “Utah continues to set the standard among states for driving next generation solutions to market. I’m proud that Millard County’s skilled workforce, strategic energy infrastructure and unique geological salt domes have put Utah on the map as the epicentre of utility-scale storage for the Western United States.”

A decarbonised future?

The ACES project is part of efforts across the US to reduce carbon emissions, with a number of states aiming to decarbonise their energy infrastructures despite [the Trump administration’s](#) pursuit of [offshore drilling operations](#).

The New York Senate passed the Climate Leadership and Community Protection Act on [19 June 2019](#), expressing carbon emissions targets and diverting the state’s energy to renewable sources in “the most comprehensive and aggressive climate change legislation in the nation”.

Similarly, California became the largest economy in the world to commit itself to exclusively sourcing energy from renewable sources by 2045 [in August 2018](#).

“For 20 years, we’ve been reducing carbon emissions of the U.S. power grid using natural gas in combination with renewable power to replace retiring coal-fired power generation,” said MHPS CEO and President Paul Browning.

“In California and other states in the western US, which will soon have retired all of their coal-fired power generation, we need the next step in decarbonisation.”

Renewable energy generation overtook coal power generation in the US for the first time in its history [in April 2019](#), making up 23% of the country’s energy generation compared to coal-fired electricity at 20%.

Through the development of the ACES, Utah’s energy industry expects to capitalize on these developments and ensure renewable energy remains economically viable for the US west coast.

“Governor Herbert’s strategic energy plan continues to accelerate unprecedented investment, innovation and workforce opportunities for Utah’s diverse energy landscape and provide the energy future that delivers global solutions to meet ever-evolving market demands,” said Utah energy advisor Laura Nelson.

“The unmatched investment and innovation brought forward by MHPS and Magnum Development to rural Utah again demonstrates the power of the forward-looking energy policy I have advanced throughout my administration.”

New Mexico's new energy law prompts legal challenge

ALBUQUERQUE, N.M. (AP) — New Mexico's new landmark energy law is facing its first legal challenge as a coalition of environmental and consumer advocacy groups filed a petition Monday with the state Supreme Court over concerns that certain provisions are unconstitutional.

The groups contend language within the law signed by Gov. Michelle Lujan Grisham earlier this year erodes the state's ability to regulate utilities and puts electric customers at risk of having to pay unchecked costs.
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How salt caverns could transform renewable energy storage for the US

(Continued from page 2)

Aside from mandating that utilities provide emissions-free electricity by 2045, the law charts a course for the closure of the coal-fired San Juan Generating Station by 2022. It includes a financing mechanism aimed at easing the economic consequences of closing the power plant.

Mariel Nanasi, executive director of New Energy Economy, said Monday the groups support the state's renewable energy goals but that regulatory oversight by the Public Regulation Commission will be important as New Mexico's electricity market evolves over the next two decades.

"That constitutional protection cannot be bargained away by legislators, no matter how noble their overall goals," she said.

The Energy Transition Act resulted from a year of negotiations that included utility executives, unions and environmental advocates. State officials touted it as one of the strongest packages of its kind in the U.S., and it marked a win for Lujan Grisham, a first-year governor who campaigned on boosting the number of wind turbines and solar panels around the state.

However, critics say the law will be a boon for Public Service Co. of New Mexico, which operates the San Juan power plant. The law allows the utility and other owners of San Juan to recover investments in the plant by selling bonds that will be paid off by utility customers."

In addition to paying for decommissioning costs, the bonds will fund severance packages and job training for workers who will be displaced by the closure of the plant and the coal mine that feeds it.

Regulatory and market pressures have pushed many utilities across the U.S. to move away from fossil fuels, including in neighboring Arizona where one of the region's largest coal-fired plants will shut down before the end of the year.

PNM is no exception. Executives with the New Mexico utility have said that despite the new law, they already were on a path that would increase the percentage of renewable and carbon-free energy sources in their portfolio.

The petition filed Monday centers on the Public Regulation Commission's role in balancing the interests of utility shareholders and ratepayers.

New Energy Economy and the other groups are asking the court to disregard provisions of the new law that they say would remove the commission's authority to review the prudence of utility investments and consider how much of the costs should be borne by customers.

The petition states the law gives the utility "unbridled discretion to charge ratepayers whatever amount the utility decides it should receive as compensation when it closes an old plant."

Sen. Jacob Candelaria, an Albuquerque Democrat who sponsored the energy measure, argued that the commission still has the ability to either approve or disapprove a utility's proposal for financing closure and decommissioning costs.

He said the law calls for third-party bond counsel to determine whether any resulting bonds would be in the best interest of ratepayers.

It will be up to the Supreme Court whether to take up the petition.

There's also uncertainty surrounding PNM's application to close San Juan since the commission is embroiled in a dispute over whether provisions of the new energy law should apply to the proceeding.

That has spurred frustration among some lawmakers and environmentalists who are concerned about potential regulatory delays.

Candelaria said the law was a compromise and that transitioning from coal will have costs for ratepayers, shareholders and workers.

"The Energy Transition Act is trying to answer difficult questions," he said. "This is about charting a real path forward that isn't just based on hope and campaign slogans."

Last Trainload of Coal Arrives at Navajo Power Plant

The last trainload of coal rolled into the Navajo Generating Station near Page on Monday, marking the closure of the mine 78 miles away and starting a countdown for the plant's own darkening. The electric companies that own the coal plant voted in 2017 to close it, citing lower prices from natural-gas plants. ❖

Arizona Republic, Aug. 26

Tags: Arizona Public Service Company, NV Energy, Tucson Electric Power

Speakers & Guests at Recent W&P Associates Board Meetings



Bill Barlack



Rod Fischburn



Razmik Manoukian
Director of Water Quality
Los Angeles Department
of Water And Power



Gerado "Jerry"
Quintero, PMP
Vice President
PM/CM
DHS Consulting, LLC,



Arash Saidi, P.E.
Electrical Engineer Solar
Program Manager
Los Angeles Department
of Water And Power



Julie M. Spacht, P.E.
Los Angeles
Department of Water
And Power



Evelyn Wendel
Founding Director;
WeTap

Welcome

Thank
You

Los Angeles' Low-Priced Solar Power Has Problems Coming Its Way

BY: CASSIE MCCORKLE ON: SEPTEMBER 15, 2019

It has been more than a month that Los Angeles has signed a contract for record-cheap solar power and the officials are trying to deny it. The labor union is concerned over Mayor Eric Garcetti's decision to put an end to the three gas-fired power plants. It has been clearly mentioned in the 25-year contract signed with 8minute Solar Energy that the Los Angeles Department of Water and Power will pay 2 cents per kilowatt-hour or lower. This is the lowest price ever waged for solar power in the US and it is lower than the cost of electricity generated from the natural gas-fired power plant. The Eland project has 200 Megawatts of lithium-ion batteries planned other than the 400 Megawatts of solar power to store solar power for a complete day and to let it into the grid for 4 Hours each night.

The combined payment of LA payers for solar power could be 3.3 cents per kilowatt-hour. The concerns of the International Brotherhood of Electrical Workers Local 18 have forced the City Council to not approve the contract. IBEW Local 18 is concerned that

Garcetti's "Green New Deal" initiative has shutdown 3 coastal gas plants and would result in unemployment of 400 LADWP workers. The workers consider Garcetti's plans to create unemployment and increase electricity prices. Others may consider the current plan as a childlike proposal but as per the Mayor, the Eland project may not replace the large plants instead can help reduce the dependency on gas. The pricing of **8minute** that relies on the federal investment tax credit for solar energy is expected to drop by 26% by this year end. By December, the company plans to start construction to be eligible for the 30% tax credit.

Similarly, a 500 MW project is on its way to construction, as per the Kern County Board of Supervisors. This new project is the one more addition to the long list of large projects taking place in California. This project is a part of the Eland 1 Solar Project: 8minutenergy. The project will be started only after the Eland 1 Solar is approved. ❖

MYSTERY HISTORY

By Jack Feldman



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This 1890s view, looking NE, shows a busy downtown Los Angeles intersection where horse-drawn carriages are seen sharing the road with electric streetcars, cyclists and pedestrians. On the SW corner (lower-left) is the Nadeau Hotel, LA's 1st four-story building (built in 1882). Further down the block can be seen another four-story ornate building. This was one of LA's 1st department stores called Hamburger & Son's People's Store. It later would evolve into the May Company Department Store. Today several well-known iconic buildings can be found in this area.

What intersection are we looking at?

- A) Olive and 3rd Streets
- B) Broadway and 7th Street
- C) Spring and 1st Streets
- D) Figueroa and Adams Boulevard
- E) Temple and Hill Streets

Answer can be found at: https://waterandpower.org/museum/Mystery_History.html

WEBSITE by WebMaster, Jack Feldman

Last Year: 254,729 page views, 143,812 visitors
Last 30 Days: 20,071 page views, 11,223 visitors

During the last year, more than 150,000 visitors viewed 273,000 pages on our website. Interest is particularly high among people associated with historical societies and education (such as college professors).

Feldman announced that more biographies of historical DWP personalities will be posted in the near future.

Members and guests are invited to attend our monthly Luncheon Board Meetings held the second Wednesday of each month, 11:00 a.m to 1:30 p.m. in Los Angeles.

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August Guest Speaker,
Arash Saidi,
Director of Solar Programs at
Los Angeles Department
of Water And Power

Update on the history and Current Status of Solar Programs in the City of Los Angeles

by Robert Yoshimura, WAPA Secretary

Solar Incentive Program (SIP)

LADWP launched its SIP in 1999, long before such programs were mandated by the state, and continued the program beyond the required 10-year period. The SIP was intended to provide cash incentives to homeowners to partially offset the cost of rooftop solar equipment. The incentive funds were finally exhausted in 2018 and the program was sunsetted at the end of that year. While incentive funding has now ended, the Net Energy Metering program remains in effect for homeowners and businesses who install solar to offset energy usage. The program was hugely successful, resulting in the installation of 268 MW of solar generation capacity by 34,440 customers at a total cost of \$331 million in incentives paid.

Net Energy Metering (NEM)

The NEM program provides a credit to homeowners for solar energy produced in excess of the amount consumed. NEM has enjoyed a significant growth in popularity since its inception in 2011 and has resulted in the installation of 315 MW of solar generation capacity by 41,760 customers as of the end of 2018.

The combined reduction in carbon dioxide emissions attributable to the SIP and NEM programs is equivalent to the removal of 39,000 cars from the streets of Los Angeles.

Feed-in Tariff (FiT)

The FiT program applies to large commercial and industrial customers of DWP who install solar equipment to offset part or all of their energy use and small commercial generators of solar energy who sell to utilities. This program is similar to the NEM program except that it applies only to solar installations greater than 30 KW (the average residential installation is about 5 KW). DWP typically contracts for such energy at fixed

rates for up to 20 years. DWP currently offers a rate of 14.5 cents per KWH to new FiT participants.

A total of 66 MW of solar capacity is currently in-service and another 81 MW is under development. The current program is limited to 150 MW total by ordinance adopted by the City Council in 2012; however, in 2019, DWP is proposing a significant expansion of the FiT program to add 300 MW of capacity. This expansion will authorize the DWP Board of Commissioners to enter into contracts for the purchase of local renewable energy up to 450 MW.

The expansion will also increase the maximum project size from 3 MW to 10 MW and reduce the maximum price of energy from 30 cents per kWh to 25 cents per kWh. A new price structure will be adopted to reflect economies of scale and technological advancements in solar generation. Prices are proposed to be 14.5 cents per kWh for projects up to 499 KW, 14 cents per kWh for projects of 500 KW to 3 MW, and 13.5 cents per kWh for projects greater than 3 MW.

Solar Rooftops Program

One of two current community solar programs, the Solar Rooftops Program is a small pilot program for residential customers who prefer to lease their rooftops to DWP for a flat rental fee under a 20-year lease agreement instead of buying and owning solar equipment. This program is for homes located in the Los Angeles service area which have never participated in the SIP program. It is strictly a leasing program to provide DWP with rooftops upon which to install solar panels for direct delivery to the power grid. One reason for the Solar Rooftops Program is to address the disparity between those who have taken advantage of solar incentive programs and those who cannot qualify for them, who are largely located in underserved communities. Thus far, a total of 41 customers have opted to join the Solar Rooftops Program and those customers will support a total of 110 KW of solar capacity on their rooves. *(Continued on page 7)*

Update on the history and Current Status of Solar Programs in the City of Los Angeles

(Continued from page 6)

Shared Solar Program

Another community solar pilot program, the Shared Solar Program is intended to extend the benefits of solar energy to multi-family dwellings. The program is available to Los Angeles area residents living in apartments or condominiums with metered accounts. Subscribers to the program will lock-in rates for a portion of their energy use for up to 10 years. Most subscribers will pay more initially to pay less later to create bill certainty. Subscriptions are transferrable to new locations and may be cancelled at any time.

Solar Financial Information

The total cost of solar energy generation is the sum of the costs of design, permitting, materials, construction, and maintenance. As of January 2019, the average total cost of solar power was \$3.03 per watt. The cost of solar panels and associated equipment has declined significantly since 2010. Depending upon the scale of the installation, equipment costs have declined between 63% and 80% in that time frame. While solar energy remains more costly than traditional sources, the great reduction in equipment cost will help to attenuate the anticipated increases in power rates over the next 20 years as the percentage of renewable power rises to its mandated levels.

State-mandated targets for renewable power are: 55% by 2025, 65% by 2036, and 70% by 2045. The City of Los Angeles' own targets are: 60% by 2025, 70% by 2036, and 100% by 2045. ❖

Edison International Report Ties Equipment to a Deadly Los Angeles Wildfire

California energy giant Edison International has sent state regulators a report on a deadly wildfire that broke out last week on the edge of Los Angeles, signaling that the company's equipment may have been somehow involved in the blaze.

Southern California Edison submitted a filing known as a safety incident report with the state Public Utilities Commission on a fire that erupted late Thursday on the city's northern border, agency spokeswoman Terrie Prosper said. The Saddleridge blaze destroyed 23 buildings and led to the death of a man who suffered a heart attack while hosing down his house. ❖

[Bloomberg](#), Oct. 14

Newsletter Contributors:

Jack Feldman,	Dorothy Fuller
Jerry Gewe,	Thomas McCarthy,
Richard West,	Evelyn Wendel
Robert Yoshimura,	

Citing Reliability, CAISO Says State May Need to Run Gas Plants Longer

Citing a fast-approaching shortfall of thousands of megawatts of power capacity, California's energy grid operator last week urged the California Public Utilities Commission (CPUC) to immediately consider extending retirement dates for natural gas-fired plants slated to shut down under the state's once-through-cooling mandate. In comments filed July 22 in an ongoing CPUC docket on energy procurement, the California Independent System Operator said its analyses points to a potential "resource adequacy" gap of up to 2,000 MW beginning in summer of 2021 and growing quickly to 2,500 MW in 2022 if all once-through cooling plants retire as planned. ❖

IHS Energy Daily<http://www.mmsend42.com/link.cfm?r=r8xLVgdym5HLG05DetYqSw~~&pe=IY11mn7e6u-WXnKrisxib8hTqpAelnwnHHCyhAZDGok6Cj0CsJwHI9t_3yQ9zs_TnsISzUAlleA2EOGA-gsAjg~~&t=NUWvoEKASsa_I1MjDBySzQ~~>, July 30

Hydropower giant Bonneville Power is going broke

Jeremy P. Jacobs, E&E News reporter Greenwire: Tuesday, September 3, 2019

Grand Coulee Dam on the Columbia River in 1942. The Bureau of Reclamation facility electrified the Pacific Northwest and remains one of the most productive hydropower plants in the world. Library of Congress/Farm Security Administration/U.S. Bureau of Reclamation



LEWISTON, Idaho — Nearly a century ago, America embarked on a great social experiment in the Pacific Northwest, charging up the Columbia River and erecting dams.

It worked. Construction jobs pulled the country out of the Great Depression. Cheap electricity spurred the growth of cities like Seattle, Portland and Boise. And hydropower fueled the military effort to defeat the spread of fascism in World War II.

Now the system is buckling.

The Bonneville Power Administration, the independent federal agency that sells the electricity produced by the dams, is careening toward a financial cliff. BPA is \$15 billion in debt, facing a rapidly changing energy market increasingly dominated by wind and solar and a desperate need to maintain aging infrastructure that's expected to cost \$300 million to maintain and upgrade by 2023.

"If this were a private company, you would be shorting BPA," said Tony Jones, an economist at consulting firm Rocky Mountain Econometrics. "If it was a private-sector company, it would restructure. Or this would be a good time to declare bankruptcy."

Hydropower no longer produces the region's cheapest electricity.

In the past, the utility relied heavily on selling surplus power at high rates to states including California, often referred to as the utility's ATM. But starting around 2008, California invested in wind and solar, and soon it no longer needed BPA's power. Bonneville was left with virtually no customers for its extra power.

As a result, BPA's rates have risen 30% since 2008. BPA currently charges its utility customers nearly \$36 per megawatt-hour. On the open market, they could buy electricity for \$22.

BPA has survived so far because it inked 20-year contracts with its utility customers in 2008, before California and others shifted to solar, wind and natural

gas. But those agreements end in 2028, and if BPA doesn't come up with a plan, its customers will buy cheaper electricity elsewhere.

If even a few do that, BPA would likely have to raise rates even higher to cover costs, which could lead other customers to similarly head for the exits. And that, in turn, could force even higher rate increases.

The economic term for that cycle, Jones said, is a "death spiral."

That's only part of BPA's problems. In addition to facing market pressures, it pays for the largest endangered species recovery program in U.S. history.

To date, it has cost BPA nearly \$17 billion to mitigate the effects of its dams on threatened and endangered salmon and steelhead. Those costs translate into nearly a quarter of the rate BPA charges its power customers.

And that program is failing.

Fish runs continue to decline, and though proponents highlight fish passage improvements at dams, the program's primary success is that what were once some of the most prolific salmon and steelhead runs in North America haven't vanished yet.

"We are not recovering salmon," said Patrick Wilson, a professor of natural resource policy at the University of Idaho. "We are just preventing them from going extinct."

Most experts give them 10 years until extinction.

The Northwest's status quo is broken. And it will only get worse, threatening to create a regional economic crisis. Climate change will bring harsher conditions for the fish, including warmer rivers and oceans, potentially deadly reservoir temperatures, and less usable habitat.

BPA, meanwhile, is approaching its federal borrowing limit and could reach that cap by 2023, raising questions about whether it can even afford the fish program in the future. *(Continued on page 9)*

Hydropower giant Bonneville Power is going broke

(Continued from page 8)

The utility knows this. BPA Administrator Elliot Mainzer testified last year that it's been a "bloodbath" on the wholesale market as new wind and solar have driven prices down.

Yet no one had questioned BPA's role as a regional powerhouse. Until now.

In April, Rep. Mike Simpson (R-Idaho) delivered a speech that for the first time said changes are needed.

"BPA is in trouble," Simpson said at an Andrus Center for Public Policy at Boise State University forum.

And in a first for a lawmaker, Simpson also said the fish problems and the crisis facing BPA are connected and must be addressed together.

Simpson stopped short of saying dams should be breached. But he spoke about salmon in nearly religious terms.

Recalling seeing adult salmon return to Idaho — swimming 900 miles from the ocean, gaining 7,000 feet of elevation — to spawn and die, he said: "It was the end of a cycle. And the beginning of a new one. These are the most incredible creatures, I think, that God's created."

His speech sent a tsunami through the political, environmental and energy communities.

"For 50 years, the federal agencies in charge of managing the dams on the Columbia and Snake have successfully managed to keep all the congressional delegation in the four affected states marching in lockstep and parroting their messaging," said Steven Hawley, a journalist and author of the book "Recovering a Lost River." "Simpson is the first to be openly critical and question what's going on with the hydro system."

He added, "I'm sure it makes people in the agencies really nervous."

It has also invigorated conservationists. Outdoor outfitter Patagonia Inc. is getting involved, and local activists are going on the road to drum up support.

They estimate ratepayers have contributed some \$10 billion toward the flawed fish program.

"And you are getting no results," said Linwood Laughy, a Harvard-educated activist based in Moscow, Idaho. "Well, sh**, how dumb are we?"

They point to a 2017 report from the Fish Passage Center — an independent research entity funded by BPA by law — that concluded removing four dams on the Lower Snake River, increasing spill over other

dams, would lead to a fourfold increase in the number of fish.

Simpson's assault on these problems won't be easy.

Interests that rely on the dams have had decades to become entrenched, and Simpson will have to somehow make sure everyone wins to drum up political support. That includes one of the country's most productive wheat-growing regions. Those farms rely on barging their 2.2 million tons of product from ports including the one here in Lewiston, Idaho, down the river to Portland for shipment overseas.

If they lose barging, they say, they'll be held hostage to rapidly escalating rail rates.

"If there is no longer a river system, somehow holding rail rates down while rail operates at a monopoly — there is nothing that holds that rate down," said Chris Peha of Northwest Grain Growers. "It's impossible to estimate a cost."

Many members of the Northwest's congressional delegation are dead set against removing dams, including Rep. Cathy McMorris Rodgers (R), whose eastern Washington district includes some of the ones on the Lower Snake River.

"For me, dam breaching is off the table," McMorris Rodgers said in an interview, adding that the hydropower system is "really at the foundation of our economy."

"Bottom line: Dams and fish coexist," she said.

But others wonder whether it's time for change. The current regime was established by 1980 legislation that arose following a similar set of problems.

Sometimes "a whole bunch of circumstances align, and then you get an opportunity to do something, to fix something," said Michele DeHart of the Fish Passage Center, who has studied the issue for decades. "We may be in one of those places. It takes a lot of courage."

That is exactly what Simpson is talking about. He is obsessed with the issue. The walls of a room in his congressional office are papered with maps, statistics, financial reports and everything else exploring the problem.

"Make no doubt about it: I want salmon back in Idaho in healthy and sustainable populations," he said. "Can this be done? I honestly don't know. I don't know if the willpower is there to do it. I don't know if the willpower is in Congress to do it. But I will tell you that I am hardheaded enough to try." ❖



GUEST SPEAKER:

Evelyn Wendel is the founder of WeTap, a non-profit organization devoted to reviving public drinking water fountains. The organization's Mission Statement is: **"WeTap improves awareness, access and use of public drinking fountains and public tap water, improving public health and wellbeing while reducing dependence on single use plastic waste."** WeTap was founded more than 10 years ago, initially with the sole objective of reducing the use of disposable plastic water bottles.



WeTap's quest began when Ms. Wendel was invited to a governor's conference in Sacramento arranged by Maria Shriver. At the event, bottled water was handed out to each of the 1,500 attendees because they believed that tap water was somehow unsafe. The negative beliefs about tap water were very common at the time and were bolstered by advertising from the \$185 billion-dollar-per-year bottled water industry. Because most of those beliefs were false and were disseminated for profit-making reasons, WeTap successfully convinced the organizers of the governor's conference to hand out canteens that could be refilled at a tap installed at a hydrating station instead of bottled water at the following year's governor's conference. The obvious benefits to the environment from the elimination of at least 1,500 empty plastic bottles were thus conveyed to a large audience of political leaders who could carry the message forward.

Since then, WeTap has developed a deeper understanding of both the safety of public water supplies and the potential harmful effects of bottled water use and are conveying that message to the general public. WeTap is now working with State and local water agencies to simplify their message regarding the safety of tap water to enable the average person to understand it. The typical water quality report issued by all water purveyors is so technically complex that even technically trained people cannot discern the message being sent. One of WeTap's current projects is to help the State of California improve its water quality website (mywaterquality.ca.gov) to simplify it and add items of specific concern to the average citizen. For example, fluoride, a compound of concern to many, is not mentioned on the website. WeTap plans to add language that will calm those concerns and educate the public to eliminate their fears about fluoride.

Clearly, public mistrust of tap water and particularly tap water from drinking fountains is a focal point of WeTap's educational program. Helping water agencies with education is part of the strategy to build the public's trust in tap water and wean them from bottled water. Another part of that strategy is to work with public schools to develop programs for children that will help them understand the need to undo our

"disposable" mindset to save the world from inundation with plastic waste. Raz Manoukian, LADWP Manager of Water Quality, mentioned that 50 billion plastic bottles are sold each year in the United States, and only 30% of them are recycled. Ms. Wendel displayed photographs of plastic bottles littering the bottom of the ocean at a depth of more than 3,000 feet off the Mediterranean Coast and presented a map showing the immense size of the floating plastic trash heaps that have formed in the mid-Pacific and mid-Atlantic oceans. The trend toward disposable plastic items that began in the '40s has now resulted in a major environmental problem that WeTap and worldwide governments are trying to undo.

WeTap is drawing from the experience of the San Francisco Public Utilities Commission, which has developed an extensive public information campaign and is using 100 engineers from their water department to talk to school children about tap water safety. WeTap is also attempting to brand LA's water fountains in a manner similar to the iconic and historical fountains located in the cities of Rome and Paris.

To increase access to public water fountains, WeTap has developed a phone app (known as the WeTap App) that allows users to locate public water fountains in their locale. The WeTap App also enables users to add fountains they know of that are not currently shown on the App. **The App is intended to eventually cover every fountain worldwide** with users providing most of the data regarding location.

In 2015, WeTap worked with Los Angeles' Mayor Eric Garcetti to establish Tap Water Day on the Thursday of Drinking Water Week, which occurs during the first week in May of each year. The event draws attention to the reasons tap water is safe and advocates its use in lieu of bottled water. At the most recent Tap Water Day earlier this year, the City announced plans to install or refurbish 200 drinking fountains in public places around Los Angeles. The 200 fountains will incorporate a logo (as part of the branding campaign) and marketing information regarding the safety and benefits of tap water use. WeTap is now advocating an increase in the number of new/refurbished fountains to 2,000. ❖



New Orange County Water Director's Poseidon Alternative

By John Earl, Surf City Voice 8/8/19

Kelly Rowe of Costa Mesa stunned the Poseidon underworld when he [soundly defeated](#) two-term [Orange County Water District](#) board-member [Shawn Dewane](#) in the 2018 election.

Since 2013, Dewane and OCWD directors Cathy Green, Steve Sheldon, and Denis Bilodeau [have fought hard for Poseidon](#) Resources to build a \$1 billion ocean desalination plant in Huntington Beach and sign a water purchase agreement with OCWD.

Rowe will try to end that obsession by refocusing OCWD's efforts.

The remaining members of Poseidon's coterie still obsess over Poseidon's proposed desal deal: buy 56,000 AF of desalinated water every year for 30 years, regardless of need, at 3 or more times the price of imported water sold by the [Metropolitan Water District of Southern California \(MET\)](#) for groundwater basin refills.

So far, none of OCWD's [19 producers \(water pumpers\)](#) seem interested, except Mesa Water where Dewane sits on the board of directors.

And a recent [water-reliability study by the Municipal Water District of Orange County](#) put Poseidon at the bottom of its list of needed project options. [The OCWD has always refused to study project alternatives, thanks to the Poseidon coterie.](#)

But Green loves to equate the Poseidon project to [OCWD's toilet-to-tap Groundwater Replenishment System \(GWRS\)](#), which produces potable water using the same process as [Poseidon but at half the cost.](#)

Green claims that GWRS also had critics, but it turned out great and so will the Poseidon project, [which \(she says\) is desperately needed.](#)

[Rowe is a licensed geologist, hydrologist and floodplain manager](#) with 40 years experience building and managing groundwater wells and facilities.

He was an OCWD board member from 1998-2000 when he voted to approve the GWRS Environmental Impact Report.

"I note that we did not have any public opposition," [he recently told the Santa Ana Regional Water Quality Control Board](#), whose [members were considering the "need" for Poseidon.](#)

"Although Poseidon proponents say that we did have opposition, I get really angry when I hear that," he said.

Noting that the GWRS provides twice as much water ([soon to be 2 1/2 times](#)) as Poseidon's desal plant would, Rowe called the Poseidon project "an insult to intelligent water resources management professionals, a foolish waste of their funds and efforts over the last 20 years."

Rowe proposed a different plan.

If OCWD lowers the basin too much, incoming seawater contaminates its fresh water supply. That limits the amount of water OCWD can safely pump from the basin.

Rowe wants the OCWD to build an upgraded and "long overdue" 14-miles-long coastal seawater intrusion barrier so that it can safely withdraw 3 to 5 million AF, compared to 1.5 million AF now, of the basin's 60 million AF of water.

That would ensure water reliability for 10 years without replenishment and "would delay by decades the need for any ocean water desalination plant", he said

If we ever need ocean desalination, he added, "OCWD could surely build and operate such a facility much cheaper than the proposed Poseidon project."

