

## Monthly Board Report – 5/12/22



### **Agribusiness and Water Council/NWRA**

- Got Water? – ABWC Annual Meeting on Sept. 16
- AZ, CA, ID, NM, OR & WA All Issued Drought Declarations this Year
- Russian Naval Blockade Impacting Ukraine Wheat & Sunflower Oil Exports
- Current World Wheat Storage Equivalent to 10 Week Supply
- NOAA Predicts Above-Average Hurricane Activity this Year
- Proposed WRDA Amendment to make Water Supply ACE Primary Purpose
- Western States Turn towards Homeowners for Landscape Water Savings
- 51% or 2,800 People Surveyed Don't Believe their Tap Water is Safe
- NOAA: No drought relief for the West as La Niña persists
- Potential AMA on Ballot for Wilcox Area
- UT lawmakers Pass Bill that Requires State to Study How Much Water is Consumed by Power Production, Including Planned Hydrogen Deployment
- Navajo Nation Formally Claimed its Colorado River Water Plus \$200+M
- Settlement Grants Tribe 81,500 AC-FT Annually from the San Juan River
- Enviro Groups Suing USDA for Spraying Pesticides on Rangelands in West
- CAWCD President Goddard said they Predict Tier 3 Status as Early as 2024
- Arizona prepares to break open its Water Bank
- WIFA may get Expanded Instead of Creation of Stand Alone AWA

### **American Public Power Association**

- Ed Appointed to the Power PAC Board in Region 6
- APPA Finalizing Comments for SEC Climate Disclosure Rules
- Retail Prices in Deregulated States Cost ½ Cent More than Regulated States
- Public Power Portfolio – 44% Gas/23% Coal/18% Hydro/6.8% Nuclear
- Avg. Residential Rate - \$0.1217/kWh, 920 kWh Monthly Usage, \$112/Bill
- According to APPA, 29 Public Power Utilities in Arizona
- In AZ, 1.19M Public Customers, 33,890 GWH Sales, 31,474 GWH Generated

- APPA & NRECA Request Temporary Efficiency Standard Waiver from DOE to Alleviate Supply Chain Constraint on Distribution Transformers
- APPA Urges FERC To Ensure Reliable And Affordable Supply Of Natural Gas

### **Annual Operating Plan (June 1<sup>st</sup> Presentation)**

- Upper Basin 35% Full, 10.67 MAF in Storage
- 6-10 Outlook - Above Average Temperatures & Below Average Precipitation
- WY Inflow @ 60% for All Dams Except Blue Mesa (73%) – May 18<sup>th</sup>
- Powell Most Probable Inflow is 5.98 MAF (62%)
- WY 2023 Most Probable Release is 7.58 MAF
- Effective YE Mead Elevation is 1046.78' with 480K Held in Powell Included

### **Bureau of Reclamation / DOI**

- BOR States CRB Needs to Cut 2-4 MAF in 2023 to Protect Mead & Powell
- Despite Propping Up Hydropower, Commissioner Told Senators that Agency Must Focus on Basin's Future to Address Unprecedented Drought
- Hoover – Trying to Ramp up Execution as Ex. Maintenance Only at 47% YTD
- \$8M Carryover from Helped Offset Lost Tourism Revenue from Covid-19
- Projected Rate Increase of 3.64% (Caveat – Likely MWH Projections High)
- Workgroup for Hoover Developed to Discuss Drought Impact Mitigation
- Waste Site Estimated at \$2.3M (\$1.5M Remaining) - \$8M Approps Request
- DOI Proposing to Change ESA Enforcement to Allow Protect Land Species Might be Forced to Migrate to Because of Climate Change or Development
- Would Allow Inclusion of Habitat Outside of Current/Historical Range
- Yellowstone closed, evacuations begin amid road-crushing floods

### **California**

- Snowpack 38% of Average in 2022
- Frost Damage to Almond Crops Roughly 10%
- Estimated that 40% of CA Croplands will Receive No Surface Water this Year

- Gov. Newsom Open to Extending Diablo Canyon Operating Life
- Drought Could Cut Summer Generation from Hydropower Nearly in Half
- CCA East Bay Community Energy Enters into Geothermal PPA
- San Francisco PUC's CCA Energy Program Signs Storage Contracts
- First 100% Renewable, Front-of-the-Meter, Microgrid Fully Operational
- Huntington Beach Desalination Project Continues to Face Resistance
- Despite Conservation Calls, Water Use Went Up in March 19% from 2020
- Emergency Regulations Require Agencies to Reduce Water by up to 20%
- First-Ever Offshore Wind Lease Sale On West Coast Proposed

## Department of Energy

- Argonne Launched Online Tool to Estimate Impacts associated with EVs
- Estimated 1,400 GW of Economic Wind in US
- \$3.5 Billion Carbon Capture And Storage Program Launched
- \$505M to Advance Long-Duration Energy Storage Fed by Renewables
- DOE Expects to Hire 1,000 New People & Fund Energy Projects this Summer
- \$38M Net Zero Labs Pilot Initiative for 4 of 17 National Labs
- Will Invest in Technology to Reduce Energy Use and Emissions from Buildings, Transportation & Operations
- DOE Asking Congress to Fund Domestic Source of Enriched Uranium
- Russia Supplies More than 50% of Global Enriched Uranium
- DOE Looking to Revamp Loan Process to Fund Clean Energy Projects
- \$504M Loan Guarantee to a Large Hydrogen Project in Delta Utah
- ACES Project Bundles Renewable Hydrogen Production with a Salt Cavern
- DOE Launches Grid Interconnection Initiative To Cut 'Gridlock'
- DOE Funding 11 Projects to Harness Power of Moving Water (Rivers, Tides)

## Electric Vehicles – CFC Issue Brief & Other Sources

- According to Bloomberg, 10M EVs on the Road Globally
- EV Charging to Grow to 2% Energy Sales by 2030 & 10% by 2040
- Level 2 Charging at Home can Create Outage Risks

- Bloomberg Predicts EVs will Constitute 9% of Light-Duty Sale in 2025
- That Increase to 25% in 2030 & 60% in 2040.
- There are 75 Light-Duty EV Models Currently Available
- 80% of Buses Purchased Worldwide in 2040 will be Electrified
- FedEx Plans for 50% Delivery Fleet Electrification by 2025
- Level 1 Charger Roughly Equivalent to Power Draw of Clothes Iron (1.3 kW)
- Level 2 Chargers Range from 7.2 kW to 19.2 kW, More than Air Conditioner
- Creative EV Strategies – Sub-Metering, EV Loaners, Subscription Rates, etc.
- South Dakota has seen Fewer than 300 EV Sales Since 2011
- 70% of IOUs have Pledged Utility Fleet Electrification
- \$5B Over 5 Years from IJIA for States to Build Charging Network
- \$2.5B - Competitive Grant Program for Alternative Fueling Infrastructure
- Every 50 MI, No Greater than 1 Mile from Interstate, (4) 150 kW Ports Per
- State EV Infrastructure Deployment Plans Due by August 1
- Battery Costs Projected to be \$100/kWh, Trending Towards \$65-\$75/kWh
- EU & US to Develop Common Charging Station Standards
- Administration Missed Key \$7.5B NEVI Deadline for Advising States
- Global EV Sales Doubled in 2021
- Price of Lithium Increased 2½X since the beginning of 2022
- Coalition for American Battery Independence Launched to Shore Up US Battery Supply Chain (Includes Ford, GM, Tesla, Panasonic & Others)
- CO, NM & Others Say Putting Fast EV Chargers Everywhere on Interstate with Miles of Remote Highway Doesn't Make Sense

## **Environmental Protection Agency**

- Issues Section 401 of Clean Water Act – Certification Improvement Rule
- SCOTUS Clears Way for Interim Social Cost of GHG for Fed Agencies to Use
- The Water Reuse Interagency Working Group Formed to Push Water Reuse
- 3 Proposed CO2 Pipelines - Ethanol Refineries to Underground (ND & IL)
- WH Estimates 65,000 mi Required of New CO2 pipelines
- Current Capacity is Just 5,000 mi, Concentrated along Gulf Coast and in ND
- \$500M Disbursed for School Districts for EV and Low-Emission Buses

- Of the 480,000 Buses, Less than 1% are Electric, and 95% run on Diesel
- EPA Proposes Rule that Would Allow States and Tribes to Block Permits for Energy projects & Other Infrastructure that Could Pollute Waterways
- \$6.5B Available in WIFIA Loans for Water Infrastructure Projects

## FERC

- Biden Announces Intent To Renominate FERC Chairman Glick
- FERC Votes To End Use Of MOPR In ISO NE After Two-Year Transition
- PFAS Concern Water Providers if CERCLA is Applied for Clean-Up
- Lawsuits Seek to Reduce FERC Enforcement Powers over Nat. Gas Pipelines
- Transmission Planning Going back to Hands of the Nation's Large Utilities
- FERC Plan Will Require Transmission Developers to Consider Future Resource Mix and Give States More Authority over Cost Allocation
- Proposed Rule Would Step Back from a Critical Provision of Order 1000
- FERC Approves Midwest Grid Operator Plan for \$10B Transmission Expansion & Cost Allocation Sharing Plan, Splits MISO Footprint
- FERC Unanimously Approves NOPR For Generator Interconnection Process
- Currently over 8,100 Projects in Interconnection "Queues", Representing over a 1000 GW of generation and more than 400 GW of energy storage
- Takes 3.7 YR for Projects to Move Through Queue & 72% Never Make It

## Financial Focus

- Feds Raise Rates 0.75%, largest Increase in 3 Decades to Battle Inflation
- Contemplating Similar Move at July Meeting
- US Economy Unexpectedly Contracted 1.4% in Q1 2022
- US Trade Deficit was \$125.3B in March
- Unemployment in March was 3.6%, CPI was 8.5% in March
- Historically, Never been a Time with Above 4% Inflation & Unemployment Below 5% that was Not Followed by a Recession Within 2 Years
- Inflation Costs \$5,200 Extra for Avg. US Household
- Xinjiang China Cotton Boycott due to Human Rights Issues

- This Region Accounts for 85% of Chinese Production & 20% World Supply
- 90% of Semiconductor-grade Neon Comes from Ukraine
- Agricultural Commodity Prices has Mostly Kept Pace with Inflation
- Crude Oil Supplies are at a Decade Low
- Russia Accounts for 1.7% of GDP
- Global Trade Set a New Record in 2021 - \$28.5T
- Likely Years Away from Supply Chains Healing from Pandemic
- Recent Survey Suggests 3M People Still Remain on Workforce Sidelines
- US GDP Growth for 2022 Adjusted Downward to 3% Range
- USDA Crop Report Shows 2.5M Shortfall in Corn Acres & 400K in Wheat
- 2.3M More Soybean Acres than Expected Due to Cost of Fertilizer
- Russia Could Withhold Fertilizer from Countries in Response to Sanctions
- Milk Herd 9.37M in February, 30,000 Total Dairy Farms Currently
- West Texas Cotton Account for 35% US Production & 40% Global Exports
- Tourism in West is \$26B Compared to Agriculture in AZ at \$23B
- Clean energy faces its latest test: Rising interest rates
- Secretary Yellen Acknowledged she was Wrong about Inflation

## Hydro

- WRDA Sec. 117 Requires Secretary to Make Inventory of Low-head Dams
- WRDA Amendment Directs Sect. to Study Effects of Deauthorizing Hydro as a Project Purpose in Willamette Valley, OR
- S. 3450 Authorizes Hydropower at Sun River Project Gibson Dam
- DOE Awards \$8M to 3 Projects to Hydro's Ability to Support the Grid
- 10 Republican Lawmakers Introduced Legislation to Hydro on Snake River
- Despite \$17B Spent on Species Mitigation, Salmon on Verge of Extinction
- Protecting the Future of the PNW Salmon could Cost upward of \$27B

## Industry Update

- New Scam Using "Refund" as Means to Obtain Financial Information
- Co-ops are Using Virtual Reality as Training Tools for Downed Powerlines
- Average Power Consumption from One Bitcoin is 2,258.5 kWh
- In Comparison, 100,000 Visa Transactions Consume only 148.6 kWh

- Crypto Mining Moving Into ND (50 MW) & PNW (Cheap Power aka Hydro)
- SRP Joins Coalition To Explore Zero-CO2 Strategies, Hydrogen Hubs
- U.S. Electric Prices Up Between 77% to 233% from Last Year
- Net 30 GW New Capacity, Primarily Wind & Solar Added since Last Year
- Operators Pushing for Coal & Gas Plants to Keep Running for Reliability
- Lithium-ion Battery Industry Ramps Up Recycling Given Geopolitics
- Thermophotovoltaics Uses Renewables to Store Energy by Heating Medium like Silica Sand Inside Concrete Silos with 41.1% Heat Exchange Recapture
- NREL Calculates that up to 26 GWh of Electricity Could be Stored
- Utility Executive Expands Push For Second Nuclear Power Plant In WI
- US Coal Exports Climb 10.1% On Month In April

## Markets

- PJM Expects Wind, Solar & Battery Capacity to Increase 3X-8X Next 15 Years
- Current Capacity 15 GW, Potential for 120 GW
- \$3B in Transmission Improvements Anticipated
- ERCOT Issued Conservation Request on May 13 due to Hot Weather
- SPP Anticipates Sufficient Energy Resources For This Summer
- NERC Summer Assessment Sees 'Elevated' Reliability Risks In West, MISO
- ISO NE Projects 14% Increase Over Next Decade due to Electrification
- NERC Warned Drought Could Threaten Supplies in Western Interconnect
- SW Region faces 4,000 MW Gap of Effective Capacity by 2025
- Gap Could Rise to 13,000 MW by 2033 with No Action
- PJM Futures Price \$130.07/MWh for June-September 2022, up 173%
- WI Expects On-Peak 17% of Wind, 69% of Solar and 56% of Hydro Capacity.
- Midwest, TX and So Cal Face Increased Risk of Power Outages this Summer from Extreme Heat, Wildfires and Extended Drought
- Each MISO, CA and PNW Risk Losing more than 9 GW of Capacity

## Meetings

- E&OC – May 18<sup>th</sup>

- AEC Southwest Energy Conference – May 24<sup>th</sup>
- WAPA BCP & PDP Webinars – May 26<sup>th</sup>
- Unification Project Calls – May 27<sup>th</sup>
- Annual Operating Plan – June 1<sup>st</sup>
- Vacation – June 2<sup>nd</sup> to June 9<sup>th</sup>
- APPA National Conference – June 10-15 Nashville, TN
- BCP Meeting – June 13<sup>th</sup>
- One Transmission Rate Meeting – June 16<sup>th</sup>
- ABWC Meeting – June 17<sup>th</sup> in Goodyear
- Meeting with Rusty Bowers – June 17<sup>th</sup>
- CREDA – Santa Fe – June 20<sup>th</sup>-21<sup>st</sup>
- Hoover Workgroup – June 22<sup>nd</sup>
- IEDA Meeting – June 24<sup>th</sup>
- Meeting with CAP – June 28<sup>th</sup>
- WAPA DSW 10 Year Plan Meeting – June 29<sup>th</sup>
- Cotton Growers Presentation – June 30<sup>th</sup>
- WECC Webinar – Landscape in the West – July 6<sup>th</sup>
- CRSP Annual Customer Meeting – July 13<sup>th</sup> in SLC
- WAPA Open Access Transmission Tariff Revision 22-01 – July 14<sup>th</sup>
- APA/IEDA Meeting – July 19<sup>th</sup> in Flagstaff

## **Natural Gas & Oil**

- EIA Expects Natural Gas Spot Prices to Remain High Through Rest Of 2022
- 3 MB/D of Russian Oil, 3% of Global Production, Removed from the Market
- 4th Largest Global Disruption Behind 1978 Iranian Revolution (5.6 MB/D), 1973-1974 OPEC Embargo & 1990-1991 Persian Gulf War (4.3 MB/D Each)
- Soaring Natural Gas Prices Ahead of Summer Concerning Power Industry
- Henry Hub Futures \$7.06 MMBtu for June-September 2022, up 88%
- Natural Gas Production to Increase 3.4% above summer 2021 - 96.9 BCFD
- Exports Expected to be 14.1 BCFD
- 46 Progressive Senators & Representatives Asked to Place a New Tax on Energy Companies' Profits & Use Revenue to Provide Fuel Rebates



- Legislation was Introduced that Would Repeal 11 Oil and Gas Tax Breaks, worth \$6B annually, and Use the Savings to Send \$500 Fuel Rebates
- EQT Corp Hopes to Gain Support for Gigantic Expansion of LNG Exports
- HR 7606 Proposes to Make E15 (Ethanol) Available Year Round

## Renewables

- Small-Scale Wind Could Provide @ 1,400 GW of Energy, @ 50% US Needs
- Behind-the-Meter Distributed Wind Systems Present Large Economic Opportunity, @ 920 GW of Power Today, Front-of-the-Meter @ 475 GW
- Americans Can Save More than \$5B Annually by Extending Tax Incentives
- Administration Announced 2 Year Pause on any New Solar Tariffs
- LLL Found for 2X in Utility-Scale Wind Capacity, LCOE will Decline by 15%
- For Big Solar Projects, that Decline Even Steeper at 24%
- Renewable-Rich States Push Feds to End Electricity Grid Logjam
- Reconciliation Bill Most Likely Vehicle for Clean Energy Credits Extension

## Transmission

- DOI Approved 416 mi Line to Move Renewables across 3 Western States
- Princeton Study Estimates 60% Increase in HVTL to Reach Zero-Carbon Grid.
- \$8B PacifiCorp (Energy Gateway South & West) 2,000 MW, 2,000 mi Lines that Would Stretch From Utah into Idaho, Oregon and Washington
- @ 660 Transmission Projects Have or are Scheduled to Enter, Service in the Eastern and Western interconnections between September 2021 to 2022
- Transmission Advocates Encourage DOE to Choose Among 22 Large-Scale “Shovel Ready” Projects Under Development, Many Slowed by Permitting
- Lines Could Carry 60 GW of New Wind and Solar, 30% Increase over Existing
- Projects Average 350 mi in length and Cost an Estimated \$1.5B Each
- Current US Transmission System Made Up of 120,000 mi of HVPL
- To Reach Net-Zero Economy by 2050, Grid will Need 3X Existing Amount
- US Averages 1,800 mi New Transmission Annually, but Only 386 mi in 2021
- 550 Mi, 4,500 MW Sunzia HVTL Planning Service Date of 2025

- In NM, Study Found 11 GW of Renewables, but Transmission Lines Could Only Export 900MW to the Rest of the West.
- FERC's First Rule on Transmission Require Region Plans (20-Yr Forecast)
- DOE to Carry Out Transmission Needs Study & 15-30-Yr Transmission Planning Analysis to Identify High-Priority National Corridors

## Washington DC

- Energy & Water 2023 Approps Request Going to Subcommittee June 21<sup>st</sup>
- Senate ENR Holds Hearing on Western Drought
- In the Hearing, Senator Kelly Well Represented Arizona and its Issues
- @25% of 4,938 Earmarks Directed at Energy and Environmental Concerns
- House Transportation Committee Approved WRDA Bill
- FEMA Administrator Criswell Pressed on Transformer Supply Chain Issue
- Republicans Release Framework for Energy, Climate & Conservation Policy
- Biden Enacts Defense Production Act to Speed Transformer Availability
- S. 2334 "Large Scale Water Recycling Project & Drought Resiliency Investment Act" from Sen. Cortez Masto, \$50M Competitive Grant Program
- Democrats want President Biden to Declare a Climate Emergency
- House Republicans Natural Resources committee is looking to drop a bill on the Endangered Species Act (ESA), to expand ESA and 4(d) rules in mid-June
- House Democrats approved a \$1.6 trillion topline for fiscal 2023
- Targeting All 12 Spending Bills Out of Committee by June, Floor in July
- Expect CR to Keep Government Running beyond September 30
- H.R. 7606, the "Lower Food and Fuel Costs Act," Which Includes Expanded Biofuel Infrastructure and Year-Round Sales of Higher-Ethanol Fuel
- FEMA Administrator Pressed on Supply Chain Impacts to Disaster Recovery
- Lawmakers talk offsets as Wildlife Bill (HR 2773) reaches House floor
- House Approved HR 2773 (\$1.3 B/Yr for States)

## Western Area Power Administration

- DSW Confirms Jack Murray as New Regional Manager
- Administrator Sends Summer Readiness Letter

- WAPA-DSW Issues NOI to Join CAISO EIM on April 5, 2023

## **Wildfires & Other Disasters**

- 2,000+ Firefighters Battling the largest U.S. wildfire in northeast NM
- S 4274 Proposes to Increase R&D on Wildfire Behavior & Management
- Forest Service Admits to Causing Both the Calf Canyon-Hermits Peak Fires
- New Mexico Residents Sue for Information on Massive Wildfire
- Forest Service halts prescribed burns after wildfire mishaps
- Hermits Peak Fire in New Mexico Burned 310,253 AC
- Sen. Wyden (D-Ore.) Stands Behind Bill Introduced to Mandate Prescribed Burning on 1M acres of federal land annually, and up to 20 million acres
- Senate ENR, Forest Service Struggled with 12% Budget Reduction for Deferred Maintenance, even though Backlog Grows from \$5.9B to \$6.3B
- Nationally, there were 58,985 wildfires reported in 2021,
- Reported wildfires consumed 7,125,643 acres,
- Just 5 Fires Collectively Accounted for more than 2M acres Burned