

**Cat Creek Energy and Water Project - Idaho  
Testimony for the Hearing Record  
Committee on Energy and Natural Resources  
United States Senate**

**Oversight Hearing**

*“To examine the opportunities and challenges for maintaining existing hydropower capacity, expanding hydropower at non-powered dams, and increasing pumped storage hydropower.”*

**January 11, 2022**

Chairman Manchin, Ranking Member Barrasso, and Members of the Committee:

On behalf of the Cat Creek Energy and Water (CCEW) Project in Idaho’s Boise River Basin (Basin), my name is John Faulkner, owner of Cat Creek Energy, LLC, and I am pleased to provide the Committee with an update on the status of planning, design, and construction phases of this dual Energy/Water focused pumped storage hydropower (PSH) project (map attached).

The CCEW project merges reliability with renewable energy to deliver significant new capacity to meet the needs of millions in the West, with minimal federal cost or involvement.

**Project Overview**

CCEW is more technologically advanced project in both design and function than other proposed PSH projects. CCEW is able to store unprecedented quantities of carbon-free generated energy while storing large volumes of water supply otherwise lost to recently experienced earlier snowmelt in the Basin. CCEW will construct a project with six times the stored energy of the next largest PSH facility in development and 72 times more than the largest electro chemical battery in operation today.

CCEW is in the federal permitting phase for this innovative 720 MW of PSH, which includes 110 MW of on-site wind and 40 MW of solar generation. The project would provide up to 121 hours energy storage (87,120 MWh) and 100,000 acre-feet (“AF”) of new off-stream reservoir storage. The new reservoir will be fully lined to eliminate seepage and also will float another 110 MW of PV Floatovoltaics solar to reduce evaporative losses by up to 55%. Overall, CCEW can provide approximately 2,800,000 metric tons of CO2 offset annually, about \$900,000,000 in construction wages, and would boost federal, state, and local tax revenues for the next 100 years of service. The Voith ternary pump-turbines hydro units will be manufactured in America from American steel.

CCEW is a new innovation in the private/public partnership concept, providing all the benefits of a public works project -- clean energy and abundant and needed water services for Southwestern

Idaho -- as a privately owned and financed project, thereby returning billions of dollars in taxes to federal, state, and local tax coffers over its lifespan.

CCEW Ternary designed hydro pump/turbines will be installed underground, adjacent to the Bureau of Reclamation's (Reclamation) Anderson Ranch Reservoir. CCEW uses this federal reservoir to recycle water from the new upper reservoir built on private ranchlands 800 ft. above it. The system will help store water for needed beneficial use downstream, yet generate large output, carbon-free electricity through cycling CCEW water between the two reservoirs.

CCEW incorporates new technologies and operational design protocols to implement the century old PSH model more effectively, establishing wide-ranging flexibility. This deliberate design meets both pressing renewable energy and critical water needs on a very large scale and will perform under all circumstances well into the next century.

### **Why The CCEW Project Is Unique**

What distinguishes CCEW from other renewable energy generation and storage projects is its ability to provide Large Volume, Long Duration (LVLD) energy storage.

At 720 MW output, CCEW can provide five days (120 hours) of continuous energy storage capacity output. To place this in perspective, the water battery discharging would be able to power 295,500 households (about 59% of Idaho homes) for those five days without recharging by simply using its energy storage capacity. The adjacent wind and solar would extend this capability. It is uniquely able to provide carbon-free energy during multi-day weather events such as extreme heat that spiked demand in California in August 2020 or plunging temperatures that drove demand to outstrip energy supplies in Texas in February 2021. Multi-energy services can be deployed simultaneously, consecutively, or repeatedly over seconds, hours, or days.

There is no question of how many cycles our battery can last because cycling is infinite as charging and discharge from 1 to 870 MW, and the multi-turbine capacity, instantly provide the flexibility in power reliability needed to transition the grid. Each unit can respond rapidly to large system load changes, or load follow the VRE resource capacity volatility within a minute; delivering the range of services demanded of that will be its energy mainstay.

Frequency regulation, peaking, load following, and baseload, with full dispatchability, introduces a new era in major clean energy infrastructure. With the retirement of natural gas turbines and coal-fired generators, maintaining rotational inertia necessary for grid integrity can be met by installations such as CCEW.

The importance of this dual infrastructure cannot be underestimated. CCEW is also designed to capture spring mountain snowmelt currently flowing out of the South Fork of the Boise River when rapid runoff exceeds existing reservoir capacity. This water is needed to support population growth in an area experiencing a decline in local aquifer volume and diminished water quality due



to increased nitrate levels. CCEW's new reservoir located above the Anderson Ranch Reservoir has the capacity to meet 52% of the projected water storage shortfall over the next 30-years in the Boise Basin, the fast-growing Boise metro area, its surrounding communities, irrigated farms many which supply crop seeds worldwide, and ranches. During periods of excess snowmelt, CCEW could divert water flowing through the Anderson Ranch Reservoir to the Cat Creek Reservoir using its six American-made Voith ternary pump/turbines, potentially assisting federal agency flood water management in the Boise Valley. Water use efficiency and retention is still the dominate issue in the West, and the CCEW design methodology cushions the extreme cost of new water storage for expanding beneficial uses.

### **Status of the Project**

CCEW has secured regional conditional use permits and is in the federal permitting cycle for this dual-jurisdiction federal project requiring both a Federal Energy Regulatory Commission ("FERC") hydropower license and a Reclamation Lease of Power Privilege ("LOPP").

CCEW has recently filed its Preliminary Application Document (PAD) with FERC and a draft work plan with Reclamation to obtain the LOPP. The LOPP would provide the CCEW facility with operational energy generating water from Reclamation's Anderson Ranch Reservoir. Due to the special location of CCEW's new reservoir, CCEW was also able to apply to the State of Idaho for its own water right for the CCEW reservoir storage facility.

That water right would grant additional water security [101,300 acre-feet] allowing CCEW to divert previously unallocated waters during high spring runoff without interfering with any existing water rights for beneficial uses downstream. As evidenced in decades of studies in the West, snowmelt and runoff seem to be occurring earlier and earlier each year. CCEW will have the mechanical and volume storage capabilities to capture that earlier runoff that existing Basin dams and reservoirs might not and that would be otherwise lost to the Pacific Ocean.


Once licensed, the project's PSH and storage modules will be staged for completion during a 52-month construction cycle and final COD (Commercial Operation Date) anticipated to be towards the end of 2026 for all power modules, with the wind and solar modules operational in 2023. CCEW will be a significant contributor to the construction and manufacturing industries in the area and as a 100-year resource, providing jobs, purchasing consumables, paying taxes, fees, and royalties as a private facility. From the onset, CCEW also embedded designated annual social and environmental justice distributions and measures into its annual budget allocations.

In conclusion, the CCEW project has been exceptionally conceived to address the current need for renewable energy and water storage and will utilize the best technologies available and with the highest degree of flexibility to allow a smooth transition to a 100% GHG and other pollutants free, decarbonization society by mid-century.

I would be happy to provide the Committee with any additional information you require and answer any questions.

Thank you for the opportunity to provide this information for the hearing record.

Respectfully,



John Faulkner  
Cat Creek Energy, LLC



# Location

