North Lakeport Advanced Energy Project

19 July 2022

Johnny Brown
VP- Regional General Manager

Michael Day
Advanced Energy Project Development Leader

Doug Walker
Account Representative

Agenda

- Introductions
- Review of ESCO/ESPC Process to Date
- Work on Project Since Last Meeting
- Current Project Status/Trends
- Discussion
- Decision on Path Forward

INTRODUCTIONS

TRANE TECHNOLOGIES

We believe visionary leadership empowers positive change

Trane Technologies (NYSE:TT) is a global climate innovator. Through our strategic brands Trane and Thermo King, and our portfolio of environmental products and services, we bring sustainable, efficient climate solutions to buildings, homes, and refrigerated transport.

34
Manufacturing Locations Worldwide

~36,000
Employees

$13.1B
Total Sales

Review of ESCO/ESPC Process to Date

Trane/County of Lake Energy Project History

• RFP released	January 2020
• Trane Selected	July 2021
• Letter of Commitment	September 2021
• Update	July 2022

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Work on Project Since Last Meeting

Technical – Red Flag Analysis

- Looked for "Fatal Flaws" in multiple disciplines
  - Environmental Approvals
  - Equipment/Mechanical Design
  - Civil Engineering
  - Geotechnical/Soils
  - Electrical Engineering
  - Interconnection/Single Line Diagram

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Your ref: X200033013
Our ref: 12563398

Issued via email

18 October 2021

Michael Day
Advanced Energy Program Lead
Trane US Inc.
4145 Delmar Avenue
Rocklin, CA 95677

Tom Clay
Senior Project Developer

County of Lake Poe Mountain FLASHES Project

Dear Mr Day and Mr. Clay

GHD understands that Trane are currently developing a Public Private Partnership project involving community-level hydroelectric power generation and distribution that services electrical utility and or specific priority customers. The infrastructure will provide much needed water in areas that may be considered as high fire threat districts. The subject Fire-main Linked Auxiliary Supply/Hydraulic Energy Storage (or FLASHES) system is a patent pending variant on the traditional concept of closed loop pumped storage facilities.

The subject project will have over 45 million gallons of water controlled within the tank and piping system, in order to satisfy emergency reserves and daily energy and ancillary services. Operation of the system has the potential to be a zero-carbon resource that can be balanced to maintain daily emergency reserves and simultaneously power critical facilities, such as hospitals, with up to 90 megawatt-hours of energy available in a given day. The system would rely on satisfactory tank and piping systems to allow sufficient gravity flow and energy-head of the water to control the turbine and generator sets, or via closed loop pumping that is powered off the sun's energy using a photo voltaic power generation source. Combined with sufficient devices in the system's electrical output - a reliable and environmentally sustainable microgrid can be enabled to help maintain the community energy needs.

GHD was retained to provide an independent review of the preliminary opportunity assessment technical information, which included: equipment supplier information; layouts; desktop biological and natural ...urces relative to related approvals; and desktop site- and project- conditions concerning subsurface ..., intended structures, civil and site development extents, system hydraulics, and electrical generation ... voltage output and distribution.

...D employed its subject matter experts to ascertain pertinent information that would inform project ...ditions that could contribute to required considerations involving efforts associated with environmental ...rovals, system engineering, infrastructure capital, and system operations.

...ummary, the preliminary opportunity assessment technical information has been shown to demonstrate ...cepts that are technically feasible, and which would involve normal course of engineering, project ...roval, and planning development that is commensurate with a project of this size and which involves ...cal and community reliant infrastructure.

... noted that additional considerations for the project and which are not captured by this assessment could occur once further project and site specific studies are completed.

The Power of Commitment

GHD Inc. 12563398

In summary, the preliminary opportunity assessment technical information has been shown to demonstrate concepts that are technically feasible, and which would involve normal course of engineering, project approval, and planning development that is commensurate with a project of this size and which involves critical and community reliant infrastructure.

Regulatory Analysis

- Apparently not FERC Jurisdictional
- Apparently not subject to Clean Water Act
- Apparently not US Army Corps of Engineers Jurisdictional
- Subject to CEQA, but County of Lake is Lead Agency
- Eligible for expedited Wholesale Distribution Tariff interconnection process
- Not CAISO Jurisdictional for interconnection*

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*While Project is ***not*** CAISO jurisdictional for interconnection, the Project ***is*** CAISO jurisdictional for Capacity

Project has Proven Broad Support

- Organizational support helps win grants, indicates community sentiment
- Effort has received letters of support from over 20 organizations

Local
- Hidden Valley Lake CSD
- Hardesters
- LC Chamber
- LCTID
- HVL Homeowners Assoc.
- LC EDC
- Tallman Hotel
- Sonoma Clean Power
- Sutter Health
- North Shore FPD

Congressman Thompson

Investors
- Arevon
- Brookfield
- NextEra
- Wellhead

Statewide Organizations
- CESA
- RCRC
- GSFA
- PG&E
- Associated General Contractors
- California Builders Alliance
- CEDRC

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Investor Finance Options Validated

- USDA Rural Development Subsidized Loans
  - Dual project nature appears to be eligible for 2 loans
  - Solar can be further subdivided
- PG&E Community Microgrid Enablement Program (CMEP)
  - Dual Project nature appears to be eligible for two $3M grants
  - Substantial technical assistance
- Applied (unsuccessfully) for several other grants
- Several upcoming grant opportunities look Promising
  - Microgrid Incentive Program, LDES, etc.

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GSFA Bond

- GSFA JPA
  - Established 1993
  - 38 Member Counties (incl. Lake)
  - Has issued Billions of Dollars in debt
- GSFA Tax Exempt Bond
  - Issued by GSFA for a PORTION of project
  - Since it is a water tank used for fire fighting, appears to be tax exempt
  - Non-recourse to County,
  - Would not impact County bonding authority

Golden State Finance Authority®

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Project Revenue Analysis

- Commissioned by Trane
- Internationally Recognized analysts
- In depth statistical analysis
- Revenue opportunity looks good
- Validates and refines earlier assumptions
- Basis for future LSE Negotiations
- Trend is upward

North Lakeport

Project Valuation Assessment Report

Version 2.0

Prepared by ECCO International

San Francisco, California

ECCO
INTERNATIONAL INC.
Energy Consulting

For

TRANE

January 19, 2022

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Costing

- Preliminary Design Completed
- Solicited, received vendor pricing on all major systems
  - Tanks
  - Pipelines
  - Pumps
  - Solar PV
  - Turbines
  - Motors
  - Controls
  - High Voltage Gear
  - Environmental Protection
  - Property Acquisition
  - Earthwork
  - Interconnection Application
  - Permits
  - CEQA/NEPA
  - Engineering
- Anticipated Cost: Appx $146M

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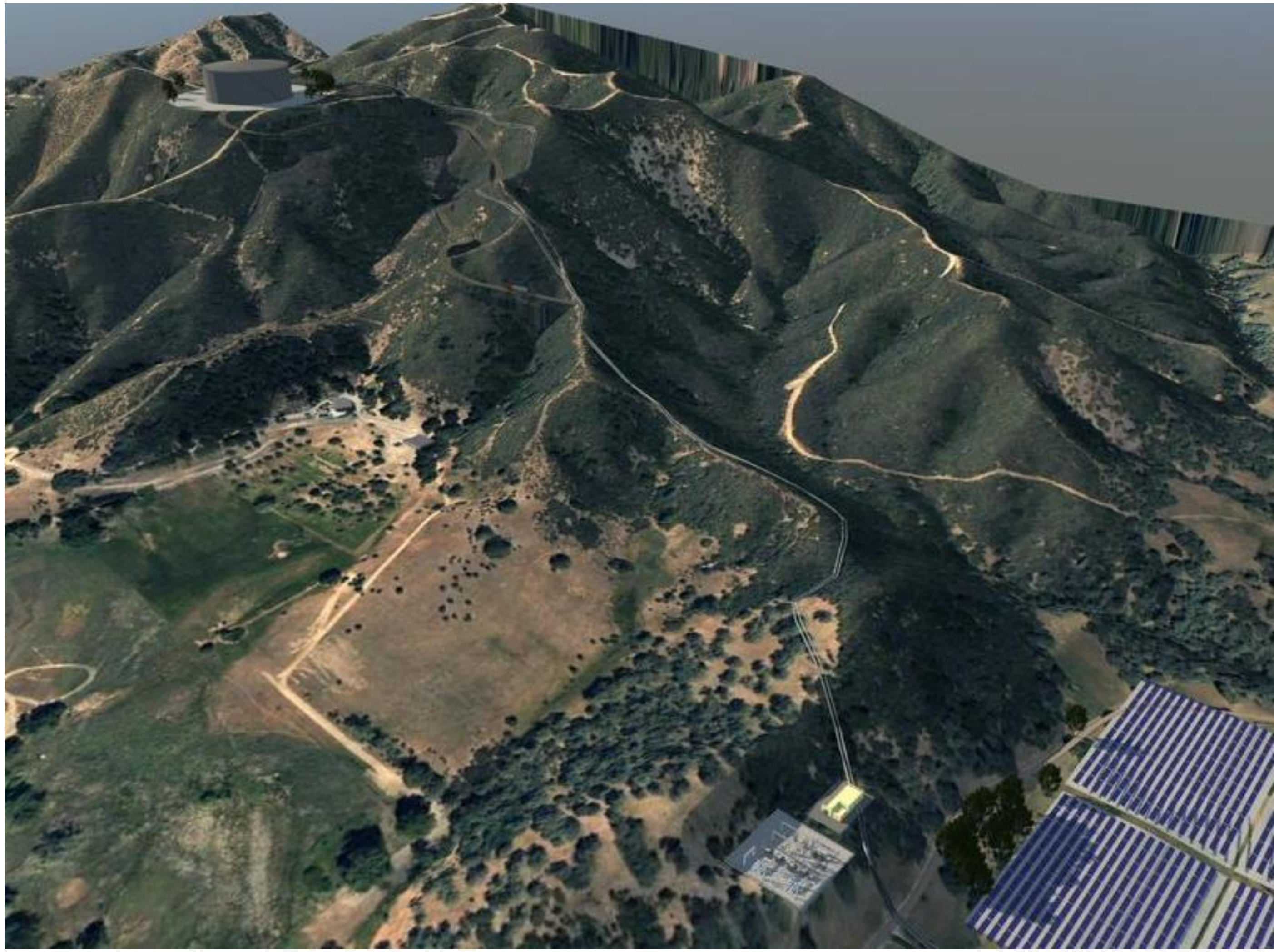
Current FLASHES Design for North Lakeport

- 20MW of Solar PV at Northwest WWTP
- 2 x 40 MG+ tanks to west of WWTP
- 3 x 10 MW hydro turbines
  - 20 MW to Hartley Substation
  - 10 MW to Upper Lake Substation
- Enhanced Firefighting Capabilities
  - Hydrants in area
  - Tanker refill
  - Ability to feed fire mains
- Energy Resilience
  - Community Microgrids
  - Critical Infrastructure Microgrid



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Proforma Results

- Total Cost Appx $146M
- Grants (CMEP $6M, Others still possible)
- USDA Guaranteed Rural Loan (Others still possible)
- Tax Equity Finance
- GSFA Tax Exempt Bond
- Estimated $250k per year to County

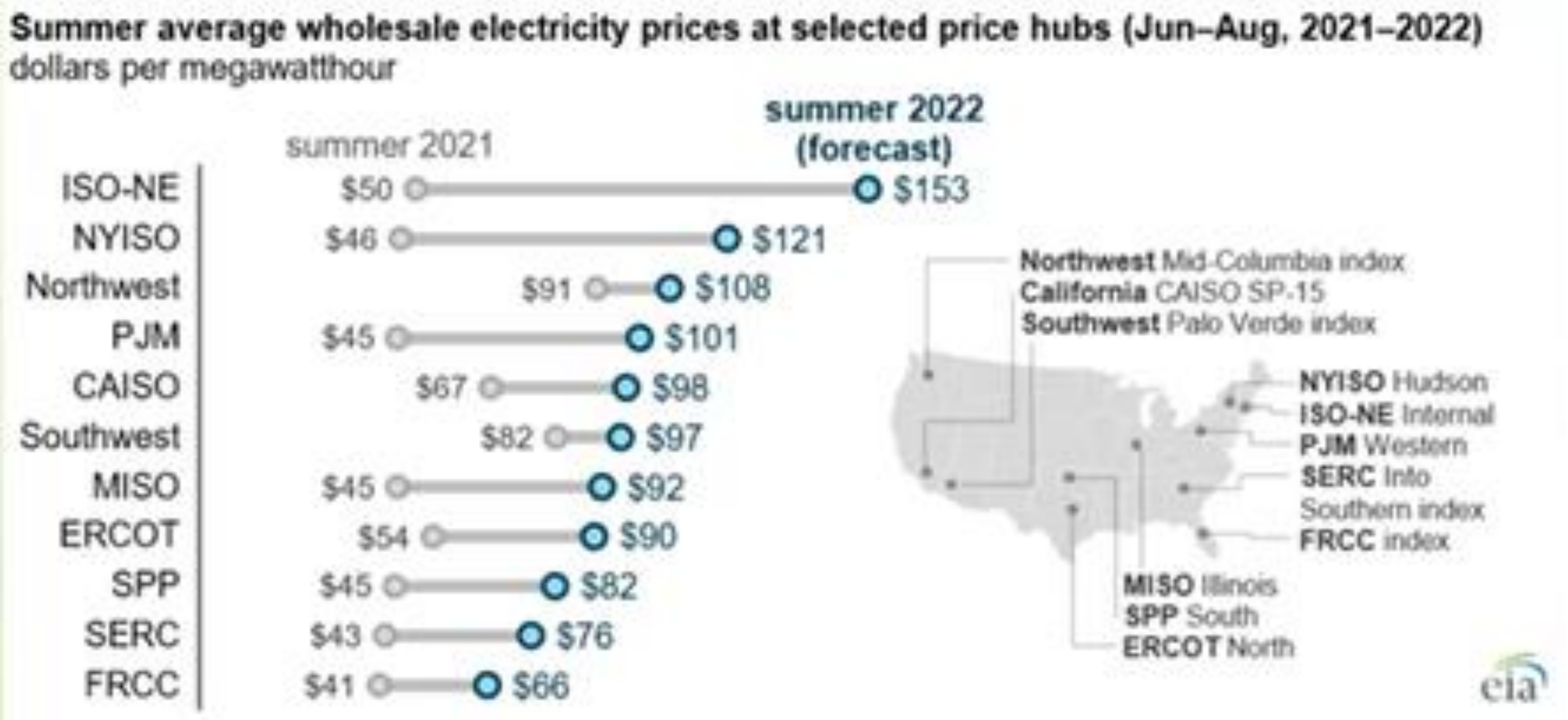
Result: Project exceeds required 12% Internal Rate of Return set in Sep 2021 Letter of Commitment

Current Project Status / Trends

Revenue Trend

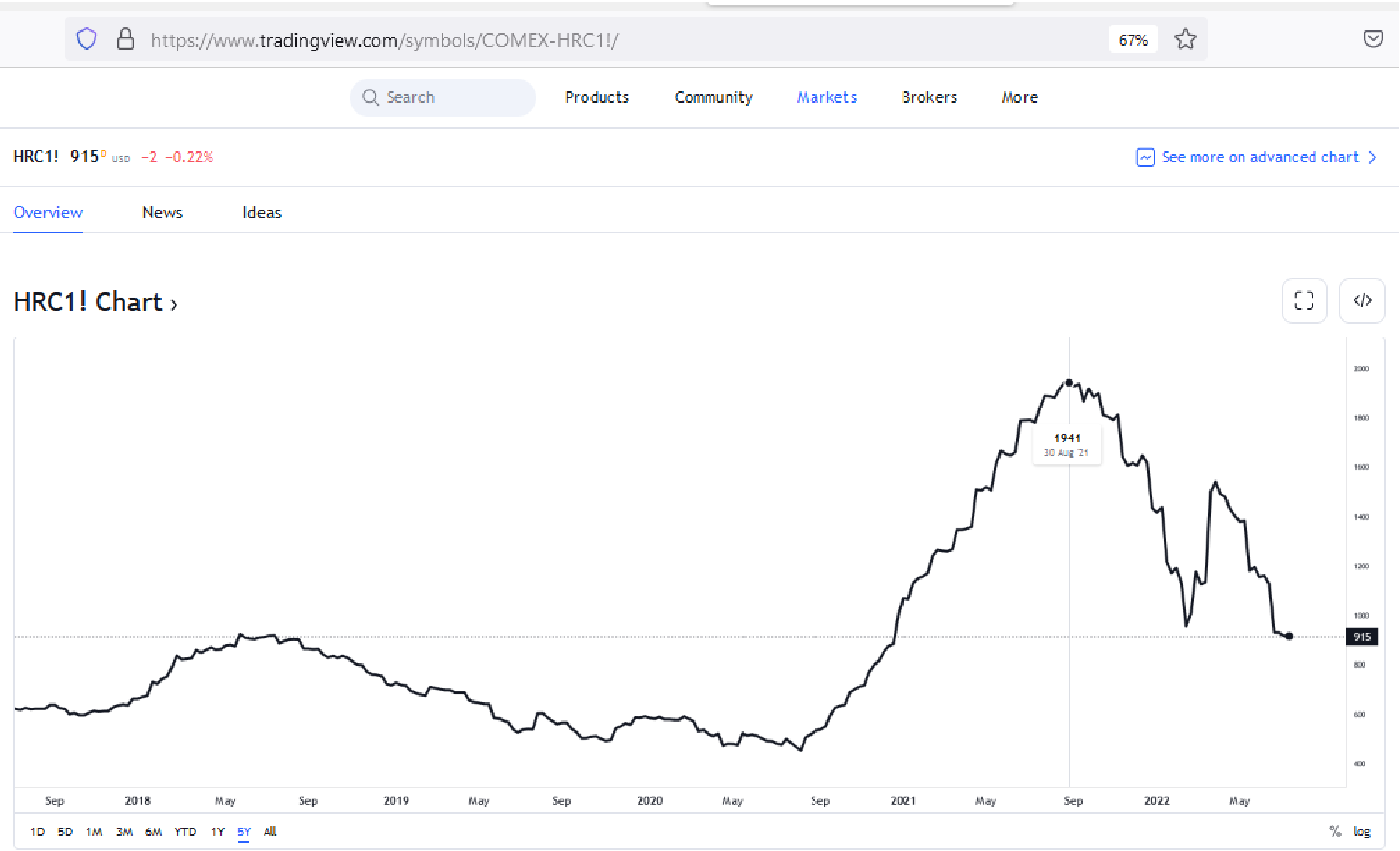
Energy Value increasing in market

Source https://www.eia.gov/todayinenergy/detail.php?id=52798



Material Cost Trends are Working in our Favor

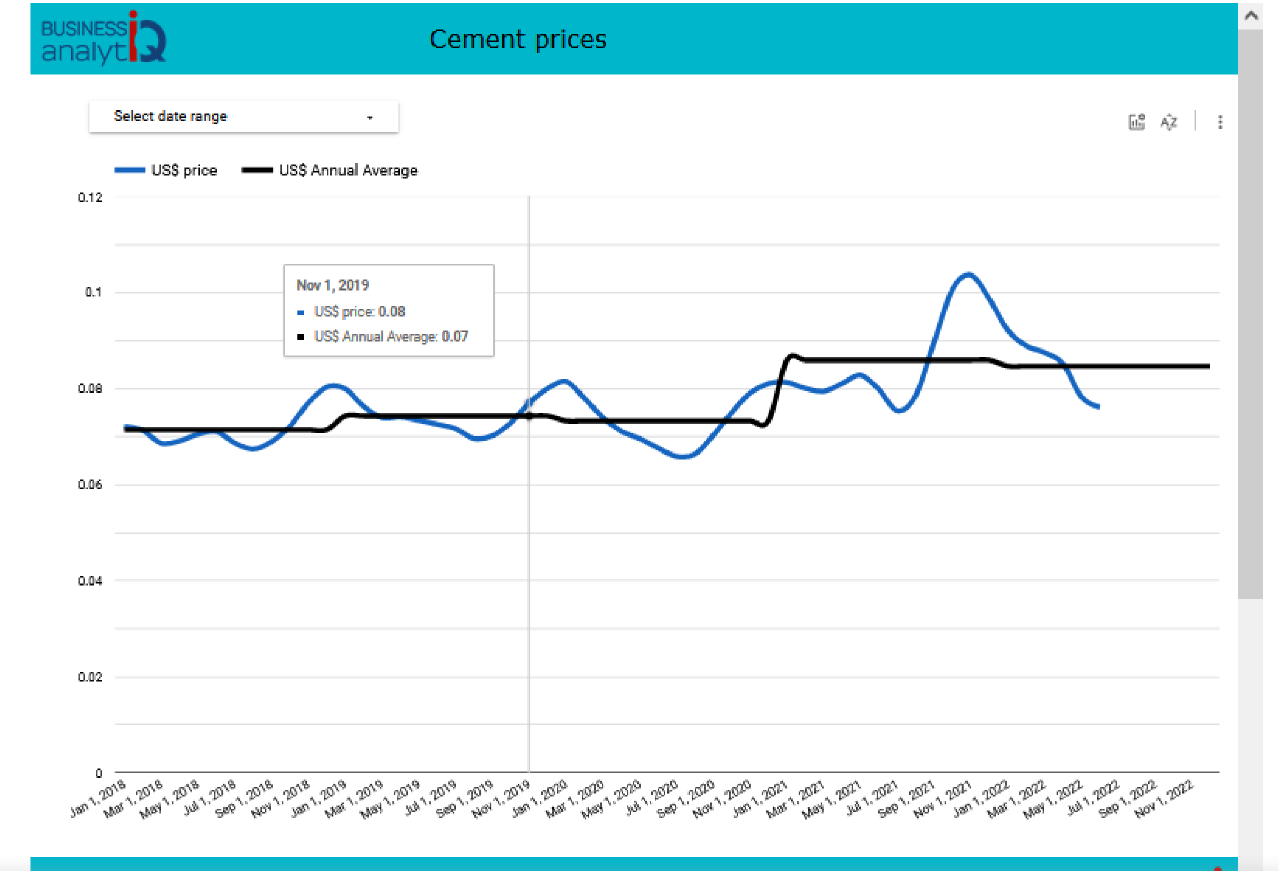
- **Steel is dropping**



https://www.tradingview.com/symbols/COMEX-HRC1!/

Material Cost Trends are Working in our Favor

- Steel is dropping
- **Cement is flat**



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https://businessanalytiq.com/procurementanalytics/index/cement-price-index/

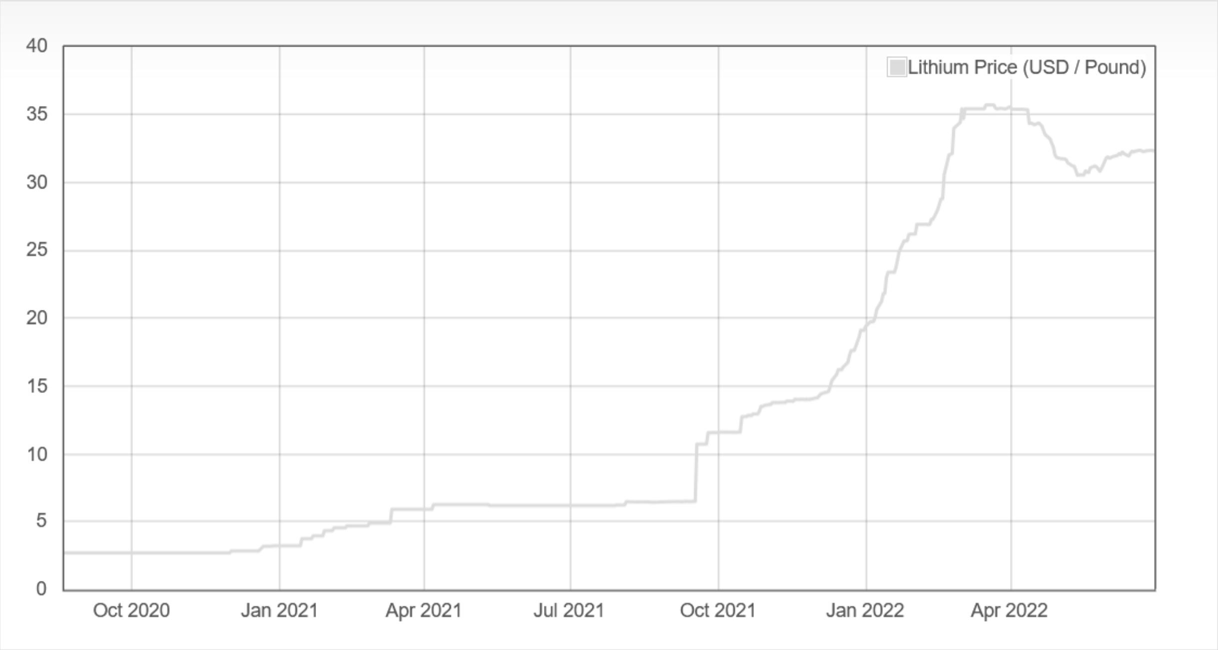
Material Cost Trends are Working in our Favor

- Steel is dropping
- Cement is flat
- **Lithium is rising quickly**

https://www.dailymetalprice.com/metalpricecharts.php?c=li&u=kg&d=240

:e	Updated
1235 lb	Jun 29, 2022
.960 lb	Jun 28, 2022
7760 lb	Jun 29, 2022
4.22 kg	Jun 28, 2022
16.67 oz	Jun 29, 2022
9.72 kg	Jun 28, 2022
00.00 oz	Mar 11, 2022
0.46 mt	Jun 29, 2022
3913 lb	Jun 28, 2022
.319 kg	Jun 29, 2022
.731 lb	Jun 28, 2022
5283 oz	Jun 28, 2022
.487 lb	Jun 28, 2022
61.29 oz	Jun 29, 2022
2.06 oz	Jun 29, 2022
000.00 oz	Jun 29, 2022
0.00 oz	Mar 11, 2022
.762 oz	Jun 29, 2022
5.40 mt	Jun 29, 2022
.449 kg	Jun 28, 2022
.156 lb	Jun 28, 2022
.100 lb	Jun 28, 2022
5157 lb	Jun 29, 2022

Lithium Prices for the Last 2 Years



Link directly to this result here: http://www.dailymetalprice.com/metalpricecharts.php?c=li&u=lb&d=480

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Summary

- Project is Economically Viable at current prices
- More Trends are positive than negative at present
- Brings substantial benefits to immediate North Lakeport area
- Acts as a catalyst for projects in other areas of County, and beyond

Request approval of LOC extension and direction on moving forward

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Path Forward

Potential Outcomes of LOC

	Event	Trane Result	County Result
Letter of Commitment Outcome Tree	Project fails to meet goals for any reason	Loss of all invested funds	No Cost/oblig.
	Project meets goals, moves to Development Agreement	Trane moves to full development	No Cost/oblig.
	Project meets goals, County declines Development Agreement	Partial Cost recovery, substantial loss	Pay LOC Fee

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Three Options for Path Forward

Under Terms of Current LOC, 3 Options Available to County

Option 1. Terminate Project

- Under Existing Agreement, County would now owe Trane Termination Fee of $100,000
- Unable to build similar project with a competitor

Option 2. Direct Trane to Prepare Tender for Offer

- Trane to engage in additional Development Work (approximately 12 months)
- When complete, assist County to publicize and conduct Tender for Offers
- Revised Termination fee unknown at this point, but certainly in excess of $1.5M

Option 3. Direct Trane to Find a Qualified Investor

- Trane to consult with County to define optimal partner characteristics
- Once criteria established, Trane to immediately seek qualified offers to County
- Revised Termination fee unknown at this point, but under $300k

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DISCUSSION

Thank You!

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