

ALASKA STATE LEGISLATURE
HOUSE SPECIAL COMMITTEE ON ENERGY

March 14, 2024

10:17 a.m.

MEMBERS PRESENT

Representative George Rauscher, Chair
Representative Tom McKay
Representative Thomas Baker
Representative Stanley Wright
Representative Mike Prax
Representative Calvin Schrage
Representative Jennie Armstrong

MEMBERS ABSENT

All members present

COMMITTEE CALENDAR

HOUSE BILL NO. 368

"An Act relating to clean energy standards and a clean energy transferable tax credit; and providing for an effective date."

- HEARD & HELD

PREVIOUS COMMITTEE ACTION

BILL: HB 368

SHORT TITLE: ELECTRICAL ENERGY & ENERGY PORTFOLIO STDS

SPONSOR(s): ENERGY

02/20/24	(H)	READ THE FIRST TIME - REFERRALS
02/20/24	(H)	ENE, FIN
02/22/24	(H)	ENE AT 11:00 AM BARNES 124
02/22/24	(H)	-- MEETING CANCELED --
02/27/24	(H)	ENE AT 11:00 AM BARNES 124
02/27/24	(H)	Heard & Held
02/27/24	(H)	MINUTE(ENE)
02/29/24	(H)	ENE AT 10:15 AM BARNES 124
02/29/24	(H)	Heard & Held
02/29/24	(H)	MINUTE(ENE)
03/05/24	(H)	ENE AT 10:15 AM BARNES 124
03/05/24	(H)	Scheduled but Not Heard
03/07/24	(H)	ENE AT 10:15 AM BARNES 124
03/07/24	(H)	Heard & Held

03/07/24 (H) MINUTE (ENE)
03/14/24 (H) ENE AT 10:15 AM DAVIS 106

WITNESS REGISTER

STEVE COLT, Research Professor
Alaska Center for Energy and Power (ACEP)
University of Alaska Fairbanks (UAF)
Fairbanks, Alaska

POSITION STATEMENT: On behalf of the House Special Committee on Energy, sponsor, provided a PowerPoint presentation on HB 368.

ACTION NARRATIVE

[10:17:24 AM](#)

CHAIR RAUSCHER called the House Special Committee on Energy meeting to order at 10:17 a.m. Representatives Armstrong, Schrage, McKay, Prax, Wright, Baker, and Rauscher were present at the call to order.

HB 368-ELECTRICAL ENERGY & ENERGY PORTFOLIO STDS

[10:18:28 AM](#)

CHAIR RAUSCHER announced that the only order of business would be HOUSE BILL NO. 368, "An Act relating to clean energy standards and a clean energy transferable tax credit; and providing for an effective date."

[10:20:04 AM](#)

STEVE COLT, Research Professor, Alaska Center for Energy and Power (ACEP), University of Alaska Fairbanks (UAF), on behalf of the House Special Committee on Energy, sponsor, provided a PowerPoint presentation on HB 368, [hardcopy included in the committee packet], titled "Analysis of Clean Energy electricity generation and Clean Energy Tax Credit amounts under HB 368." He displayed slide 2, which provided answers to questions and read as follows [original punctuation provided]:

Q1. How much new Clean Energy (as defined by HB 368) would be generated if the Clean Energy Standard [CES] of 35 [percent] after 10 years and 60 [percent] after 25 years is met?

("after" means after 2026 or after transmission upgrades are completed, whichever is later)

Q2. What amount of Clean Energy Tax Credits would be issued if the Clean Energy Standard is met, under various credit rates?

Q3. How much electricity is used by schools?

[10:23:21 AM](#)

MR. COLT continued to slide 3, "Quick answer to Q1: How much new Clean Energy to meet CES?" The slide depicted a graph and the statement, "Answer: By 2050, about 4.5 million megawatt-hours (MWh) statewide would come from Clean Energy sources deployed after 2026 to meet the CES. That's about equal to current total Railbelt consumption." He noted that under the bill version he is working from, the clock for meeting the standard starts when a sufficient transmission network is in place. Regardless of the actual start date, he continued, the graph works for showing the general pattern of what might be expected. Even if the transmission network was declared adequate tomorrow, he pointed out, there would be plenty of lead time because Alaska already has a significant amount of existing clean energy as defined by HB 368 [shown in blue], so there would be no immediate crisis to comply with the 35 percent of sales by 10 years as laid out in the bill. He explained that [the dashed line on the graph] depicts the total amount of electricity needed to meet the growth in demand as projected by ACEP and the gold area depicts the CES targets in HB 368 of 35 percent and 60 percent of the total electricity generated. The CES process would get 4 million megawatt-hours (MWH) of new clean electricity as well as 0.5 MWh from what he classifies as Alaska's power cost equalization (PCE) communities.

[10:28:05 AM](#)

MR. COLT moved to slide 4, "Quick answer to Q2: How many CE Tax Credit \$\$ would be created?" He stated that "at a tax credit of 0.2 cents per kilowatt hour, which is the same as \$2 per megawatt hour, ... the state would be issuing tax credits of about \$5-\$6 million per year by ... 2050." He advised that the credits would not start for several years because there would be no immediate crisis. While people might deploy clean energy right away, he added, they wouldn't have to.

[10:30:03 AM](#)

REPRESENTATIVE PRAX observed on slide 4 that the cumulative tax credits would be \$65 million over about 20 years, which seems like a small amount compared to the capital investment that would be required to achieve the \$2 per megawatt hour. He asked whether this would create a significant incentive.

MR. COLT offered his understanding that an amendment may be offered to change the [proposed] incentive to 5 cents per kilowatt hour, which is \$50 per megawatt hour, for a limited time. He advised that 5 cents per kilowatt hour is almost equal to what Chugach Electric Association is paying for gas-fired power. Chugach Electric could purchase wind power at 11 cents, get 5 cents of tax credit, and be able to sell it to ratepayers for less than what they are paying for gas now, and if gas prices go up that will become even more attractive. So, he said, 0.2 cents per kilowatt hour is probably not going to have a dramatic incentive effect, but 5 cents would have to sway the calculations that Chugach Electric would be making.

[10:34:26 AM](#)

MR. COLT displayed slide 5, which read as follows [original punctuation provided with some formatting changes]:

The following slides provide:

1. More detail on the assumptions and methods used to derive these "base case" results
2. Sensitivity cases:
 - S1: 2 cents per kWh instead of 0.2 cents
 - S2: 2 cents per kWh plus 1 cent/kWh rural bonus
 - S3: 5 cents per kWh in years 1-5, then decline to zero by end of yr 10.
3. Schools: how much electricity do they use?
4. Regional detail and data tables

MR. COLT spoke to slide 6, which read as follows [original punctuation provided with some formatting changes]:

Assumptions about future electric sales:

- Sales equal the demand or "load" at the customer meter, including the load served by a customer's own solar.
- Statewide electric sales in 2022 were about 6 million megawatt-hours (MWh). 1 MWh = 1,000 kWh.
Railbelt: 4.4 million (75 [percent])

PCE places: 460,000 (8 [percent])
Rest of State: 1.0 million (17 [percent])

- ACEP projects that Railbelt sales will double to 8.8 million MWh in 2050. This projection includes significant adoption of electric vehicles and modest adoption of heat pumps by 2050. {see the ACEP Railbelt 2050 Scenarios study, Section 3.2 for more details.)
[https://www.uaf.edu/acep/files/media/ACEP Railbelt Decarbonization Study Final Report.pdf](https://www.uaf.edu/acep/files/media/ACEP_Railbelt_Decarbonization_Study_Final_Report.pdf)
- For this analysis, non-Railbelt sales are projected to increase by about 77 percent between 2022 and 2050.

MR. COLT showed slide 7, "Projected Electricity Load at customer meter," and explained that the graph is a picture of the assumptions and shows the electric sales projections. He pointed out that the driver of the increased load in the Railbelt would come from electric vehicles and heat pumps. However, he qualified, if electric vehicles and heat pumps don't materialize, then the load in the Railbelt and probably in other places would remain almost flat.

[10:37:14 AM](#)

MR. COLT explained that slide 8 is a tally of the energy already had in Alaska that would meet the definition of clean energy as defined by HB 368. Slide 8 read as follows [original punctuation provided with some formatting changes]:

Assumptions about Railbelt current and projected electricity generation:

- Current Railbelt Clean Energy, as defined by HB368, based on year 2022 data:
 - 543,557 MWh from coal (Healy 1, Healy 2, Aurora)
 - 567,393 MWh from hydro (Bradley, Eklutna, Cooper Lake)
 - 102,061 MWh from wind (Fire island, Eva Creek, Delta Wind)
 - 1,577 MWh from utility solar (Willow, GVEA Solar farm)
 - About 10,850 MWh from customer-sited Solar (also known as BTM solar or rooftop solar)
- Customer solar increases to 223,000 MWh by 2050.
- Coal generation equal to current Healy 2 output (about 2120,0900 MWh) is retired at the end of 2040.

MR. COLT explained that slide 9 is a tally of the energy already had in power cost equalization (PCE) places that would meet the definition of clean energy as defined by HB 368. Slide 9 read as follows [original punctuation provided with some formatting changes]:

Assumptions about PCE places current and projected electricity generation:

- Current PCE places Clean Energy, as defined by HB368, based on year FY2022 data:
 - 32,609 MWh from hydro
 - 22,572 MWh from utility wind & utility solar
 - 55,024 MWh purchased hydro & wind
 - Perhaps About 500 MWh from customer-sited Solar
- Customer solar increases to 11,138 MWh by 2050.

MR. COLT continued to slide 10 and explained that most of the energy in the "rest of the state" is hydropower in Southeast Alaska, so this region has already met the clean energy standard and wouldn't have to do anything to meet the standard. Slide 10 read as follows [original punctuation provided with some formatting changes]:

Assumptions about Rest of State current and projected electricity generation:

- Current Rest-of-State Clean Energy, as defined by HB368, based on year FY2022 data:
 - 1,083,000 MWh from mostly hydro
 - Perhaps About 1,300 MWh from customer-sited Solar
- Customer solar increases to about 26,200 MWh by 2050.
- Current rest-of-state Clean Energy greatly exceeds 60 [percent] of sales until about 2050.

[10:38:55 AM](#)

MR. COLT paraphrased from slide 11, which read as follows [original punctuation provided with some formatting changes]:

Assumptions about timing of the Clean Energy Standard:

- The CES "clock" starts on 1/1/2027 and the targets are therefore 35 [percent] CE by 2036 and 60 [percent] CE by 2051. (This is optimistic, a reference case).
- New CE generation is deployed along smooth (exponential) growth pathways to hit the 35

[percent] and 60 [percent] targets. This is the "CES Target Pathway".

- In this analysis, the pathway is calculated separately for each region.

MR. COLT addressed slide 12, "The Statewide CES Target Pathway." The graph, he explained, shows the task that Alaska's utilities would face if they were to set out to meet the clean energy standard and to hit 35 percent by 2036 and to hit 60 percent by 2051. He said the black line depicts what needs to be done and the blue area shows that Alaska already has a head start with existing renewables. He noted ACEP is projecting that free help will be received from customer-sited solar. The white triangle on the graph, he summarized, shows what the utilities will be faced with to meet the targets depicted by the black line.

[10:41:20 AM](#)

MR. COLT discussed the graph on slide 13, "New CE generation is deployed to stay on the pathway, and it is eligible for CE Tax Credits during the first 10 years of service." The gold area depicts the new projects that are eligible for clean energy tax credits, he explained, and the green area depicts the new projects that have aged out of tax credit eligibility after 10 years, which helps to limit the expense of the money going out the door for tax credits. The gold area extends above the CES target pathway depicted by the black line, he further explained, because each load serving entity must meet the CES and when all those entities and Southeast Alaska are added together, the CES is exceeded statewide.

[10:43:31 AM](#)

CHAIR RAUSCHER noted that, under HB 368, the accountability starts after the transmission line is built. He asked whether Mr. Colt is saying that [the utilities] will try to attain the targets early because of the credits.

MR. COLT replied that he will be getting to that question at the end of the presentation. He explained that the orange extending above the black line reflects that the Railbelt would have to put in "a lot of new stuff," whereas Southeast Alaska is in surplus relative to hitting 35 percent because it [already] has so much hydro.

[10:45:32 AM](#)

The committee took an at-ease from 10:45 a.m. to 10:46 a.m.

[10:46:27 AM](#)

CHAIR RAUSCHER requested that Mr. Colt finish his presentation later in the day due to the upcoming House floor session.

MR. COLT agreed to do so.

[10:47:25 AM](#)

The committee took an at-ease from 10:47 a.m. to 10:48 a.m.

[HB 368 was held over and brought back before the committee following a recess.]

[10:48:55 AM](#)

ADJOURNMENT

The meeting was recessed at 10:48 a.m. to a call of the chair.

[1:31:03 PM](#)

CHAIR RAUSCHER called the meeting back to order at 1:31 p.m. Representatives Schrage, McKay, and Rauscher were present at the call back to order. Representatives Armstrong, Wright, Baker, and Prax arrived as the meeting was in progress.

[1:31:37 PM](#)

The committee took an at-ease from 1:31 p.m. to 1:34 p.m.

HB 368-ELECTRICAL ENERGY & ENERGY PORTFOLIO STDS

[1:34:51 PM](#)

CHAIR RAUSCHER announced that the only order of business would be a return to HOUSE BILL NO. 368, "An Act relating to clean energy standards and a clean energy transferable tax credit; and providing for an effective date."

CHAIR RAUSCHER requested Mr. Colt to resume his analysis of the clean energy standard (CES) and the tax credits proposed by HB 368.

[1:36:08 PM](#)

MR. COLT continued his presentation with slide 14, "Base case: CE tax credit equals 0.2 cents per kWh, or \$2.00 per MWh:" He explained that the graph depicts the clock starting in 2027 with a tax credit of 0.2 cents per kWh and the utilities meeting, but not exceeding, the [proposed] CES, which generates \$65 million in cumulative tax credits [by 2051].

MR. COLT turned to the graph depicted on slide 15, "Sensitivity Case S1: CE credit equals 2.0 cents per kWh = \$20/MWh." Under this case, he related, the cumulative tax credits would be [\$655] million. The 2-3 cents per kWh, he advised, is at the level that the federal government would reimburse, or would subsidize, or would offer tax credits for those clean energy developers who chose to take advantage of the federal production tax credit under the [2022 federal] Inflation Reduction Act (IRA).

[1:39:04 PM](#)

REPRESENTATIVE SCHRAGE requested clarification on whether slide 15 is meant to outline the federal incentive available to utilities or to outline the cost of Amendment 8, if that amendment were to be passed.

MR. COLT answered that he was asked to provide the math for 2 cents and was unaware of which amendment might invoke this specific number. It was only while presenting this slide that he recalled that 2 cents is in the ballpark of what the federal government is offering through the IRA.

REPRESENTATIVE SCHRAGE requested confirmation that 2 cents is what the federal incentive is. He further inquired as to whether that federal incentive program will end in 2032.

MR. COLT replied that according to the IRA's webpages, the number is 2.75 cents if [the utility] meets all the labor and apprenticeship requirements and chooses to take the IRA credit as a production tax credit, which then displaces [the utility's] ability to take the investment tax credit. He confirmed that it ends in 2032. However, he continued, an extension clause in the IRA says that if the US has not reduced its carbon emissions in the power sector by, he believes, 75 percent, then the credits will continue. He said he and his ACEP colleagues think it unlikely the US will meet that 75 percent reduction by 2032 and have therefore modeled the credit as continuing.

[1:42:47 PM](#)

CHAIR RAUSCHER reiterated his previous statement that the accountability doesn't start until after the transmission line is completed. He further reiterated his question as to whether the tax credits and incentives might cause businesses or utilities to get a head start.

MR. COLT responded yes but said he doesn't have a slide because he didn't consider it until after the 24-hour cutoff that he was given.

[1:43:59 PM](#)

MR. COLT continued to slide 16, "Sensitivity Case S2: CE credit equals 2 cents/kWh + 1 cent/kWh rural bonus (Here, "rural" is PCE places - a proxy for other definitions)." He explained that the blue areas at the tops of the gold bars in the graph show what would happen if a 1 cent/kWh bonus was added to all the PCE utility generation that is clean.

[1:45:22 PM](#)

MR. COLT skipped slide 17, "Sensitivity Case S3: credit equals 5 cents/kWh for 5 years, then decline to zero by end of year 10." He stated that he misinterpreted what one of the amendments really says and therefore the slide should be discarded.

MR. COLT also skipped slide 18, which read as follows [original punctuation provided with some formatting changes]:

Possible Role of Schools

- According to DEED [Department of Education & Early Development] School Facilities database, there are currently about 26 million square feet of school facility buildings.
- According to CCHRC's [Cold Climate Housing Research Center's] compilation in 2014 of good-quality data from 313 schools, the average electricity consumption of Alaska school buildings equals 8 kWh per square foot per year.
- Multiplying, schools use 208,000 MWh per year, about 3.5 [percent] of statewide total load.
- Thought experiment: If all schools procured their own Clean Energy, they might "collect" \$562,000 per year at 0.2 cents/kWh, or \$5.6 million at 2 cents/kWh.

[1:46:38 PM](#)

REPRESENTATIVE MCKAY observed that according to the graphs the State of Alaska would be spending hundreds of millions of dollars in tax credits. He asked how many windmills the tax credits would represent and how much would they reduce the global temperature.

MR. COLT displayed slide 21, "Regional Detail: Railbelt," and answered that under reasonable assumptions, 4 million MWh of clean energy would be seen as defined by HB 368. He estimated that if all of that was wind, it would be about 10-12 Shovel-Creek-size (200-250 megawatts) wind projects. As to how much that would reduce the global temperature, he said he cannot do that math.

CHAIR RAUSCHER pointed out that in addition to solar and wind, what is being talked about is coal, gas, hydropower, microreactors, blue hydrogen, green hydrogen, and the like.

REPRESENTATIVE MCKAY asked how many windmills are currently at Shovel Creek, Alaska.

MR. COLT replied that according to the filing with the Department of Natural Resources (DNR), the proposed installed capacity of the Shovel Creek Project is 260 MWh of wind.

[1:50:33 PM](#)

REPRESENTATIVE PRAX asked whether the calculations consider any elasticity in the demand for or supply of electricity.

MR. COLT responded that the short answer is no. However, he continued, the yellow wedge on [the graph on slide 7] represents new loads coming on to the system in the form of electric vehicles and heat pumps. To get that kind of new load on the system, he advised, something will need to be done, such as off-peak rates, to have favorable rates for those uses that benefit the consumer, bring the load on, and benefit all the other ratepayers by helping to spread the cost over more load. He further noted that [ACEP] is not using a full-blown econometric model that tries to directly measure price elasticity effect.

[1:52:55 PM](#)

MR. COLT returned to slide 21 and concluded his presentation. He noted that the remaining slides provide backup to make the record complete.

MR. COLT spoke to the potential effects of Amendment [33-LS1170\H.9, Walsh, 3/13/24] [yet-to-be-offered to HB 368]. He stated that the amendment's proposed credit of 5 cents per kWh for four or five calendar years could really move the needle on turning an uneconomic project into one that is immediately economic for today's ratepayers, which would be a powerful incentive. For example, he continued, Shovel Creek is an "aspirational" project that isn't yet on the books. He calculated that at a capacity of 200 megawatts, about 700,000 MWh of energy would be generated, which at a 5-cent credit would be \$35 million a year of state tax credit. Another example of an "aspirational" project, he related, is Chugach Electric Association's near-term goal of acquiring 100,000 megawatt hours of energy by 2025. At 5 cents a kilowatt hour, which is \$50 a megawatt hour, Chugach Electric would get \$5 million per year of tax credit for however long the bill leaves the credit in place, a substantial reward that ratepayers would love to see. These two examples, he said, give an idea of what the fiscal impact would be if there were to be a big uptake.

[1:57:39 PM](#)

CHAIR RAUSCHER thanked Mr. Colt for his presentation.

[HB 368 was held over.]

[1:59:29 PM](#)

ADJOURNMENT

There being no further business before the committee, the House Special Committee on Energy meeting was adjourned at 1:59 p.m.