

**ALASKA STATE LEGISLATURE
HOUSE SPECIAL COMMITTEE ON ENERGY**

March 8, 2022
10:18 a.m.

MEMBERS PRESENT

Representative Calvin Schrage, Chair
Representative Matt Claman
Representative Tiffany Zulkosky
Representative Zack Fields
Representative George Rauscher
Representative James Kaufman

MEMBERS ABSENT

Representative Chris Tuck

COMMITTEE CALENDAR

HOUSE BILL NO. 301

"An Act relating to the establishment of a renewable portfolio standard for regulated electric utilities; and providing for an effective date."

- HEARD & HELD

PREVIOUS COMMITTEE ACTION

BILL: HB 301

SHORT TITLE: UTILITIES: RENEWABLE PORTFOLIO STANDARD

SPONSOR(S): RULES BY REQUEST OF THE GOVERNOR

| | | |
|----------|-----|---------------------------------|
| 02/04/22 | (H) | READ THE FIRST TIME - REFERRALS |
| 02/04/22 | (H) | ENE, L&C, FIN |
| 03/08/22 | (H) | ENE AT 10:15 AM BARNES 124 |

WITNESS REGISTER

T.W. PATCH, Director of Planning
Alaska Energy Authority
Department of Commerce, Community, & Economic Development
Anchorage, Alaska

POSITION STATEMENT: Introduced HB 301 via a PowerPoint presentation, on behalf of the sponsor, House Rules by request of the governor.

BOB PICKETT, Commissioner
Regulatory Commission of Alaska
Department of Commerce, Community, & Economic Development
Wasilla, Alaska

POSITION STATEMENT: Answered questions during the hearing on HB 301.

ACTION NARRATIVE

[10:18:34 AM](#)

CHAIR CALVIN SCHRAGE called the House Special Committee on Energy meeting to order at 10:18 a.m. Representatives Claman, Rauscher, and Schrage were present at the call to order. Representatives Kaufman, Fields, and Zulkosky arrived as the meeting was in progress.

HB 301-UTILITIES: RENEWABLE PORTFOLIO STANDARD

[Contains discussion of HB 371, HB 247, HB 358, and SB 179.]

[10:19:15 AM](#)

CHAIR SCHRAGE announced that the only order of business would be HOUSE BILL NO. 301, "An Act relating to the establishment of a renewable portfolio standard for regulated electric utilities; and providing for an effective date."

[10:20:07 AM](#)

T.W. PATCH, Director of Planning, Alaska Energy Authority (AEA), Department of Commerce, Community, & Economic Development, presented a PowerPoint, titled "HB 301 Overview," on behalf of the sponsor, House Rules by request of the governor. He referenced slide 2, which listed AEA's programs and services. He noted that the agency deals with many types of energy issues, including the ownership of the Bradley Lake Hydroelectric Project and some other energy transmission assets. He stated that if HB 371 becomes law, AEA would become involved with certain broadband issues. Per rural Alaska, AEA constructs and maintains bulk fuel tank farms, diesel powerhouses, and electrical distribution grids. It also administers the Power Cost Equalization Program (PCEP). He said if HB 247 becomes law, power cost equalization (PCE) could be used to address the deferred maintenance for the bulk fuel tank farms. He continued that AEA engages in alternative energy and efficiency planning, funding, and technical assistance. He pointed out that the agency

administers grants and loans through the Power Project Fund, which is the primary source of funding for the construction of rural power projects. He added that it also administers grants through the Energy Builds Program. He explained if [HB 358] becomes law, the sunset date for the Renewable Energy Fund (REF) would be extended, and AEA would be submitting renewable energy projects for the legislature's approval.

[10:24:08 AM](#)

MR. PATCH moved to slide 3, which introduced renewable portfolio standards (RPS) to the committee. He stated that RPS are backed with incentives, both punitive and fund inducements. He added that each state's RPS are different, with many accompanied by a tradable renewable energy credit certificate. He clarified that credit certificates would not be part of the current presentation.

[10:25:30 AM](#)

MR. PATCH informed the committee that SB 179 is a companion bill for HB 301. He stated that the purpose of the proposed legislation would be to promote energy independence, long-term cost reductions, and the development of competitive markets in the Railbelt [as seen on slide 4]. Rather than having renewable energy goals, he said, the proposed legislation would create an energy standard. He added that having RPS would align Alaska with 30 other states and create a commitment to transition to a percentage of renewable power. He expressed the belief that enacting the proposed legislation would be the best way to diversify Alaska's supply of energy sources and increase energy security.

[10:26:38 AM](#)

MR. PATCH, in response to Representative Rauscher, explained that if the proposed legislation is adopted, Alaska would align with other states by having RPS. He added that each state's renewable energy standards differ by percentages [of renewable energy] and projected timelines.

REPRESENTATIVE RAUSCHER, with a follow-up question, asked whether the standards in the proposed legislation would be considered high compared to the standards in other states.

MR. PATCH responded that opinions vary. He stated that he has heard it expressed that [the proposed legislation's requirement]

of achieving an 80 percent standard by 2024 would be unrealistic, while other opinions have expressed that the standard is too low. He deferred the question to the representatives of utility companies scheduled in a subsequent meeting on HB 301. In response to a follow-up question concerning Alaska's standards relative to other states, he offered to supply the information at a later time.

[10:29:59 AM](#)

REPRESENTATIVE KAUFMAN asked about "compliance risk." He referenced the proposed legislation's requirement that a percentage of power be obtained from a [renewable] source. He questioned the management of this requirement in regard to permitting and other risks.

CHAIR SCHRAGE interjected that representatives from the utilities would be available to answer questions during a future meeting. He suggested that would be the opportunity to question feasibility.

[10:30:47 AM](#)

MR. PATCH, in agreement, stated that research or utility company representatives would do better to answer the question. He noted that the Regulatory Commission of Alaska (RCA) would be monitoring the accomplishments of the utilities within the Railbelt, which is the targeted area of the legislation.

[10:32:07 AM](#)

CHAIR SCHRAGE pointed out that the legislation's main objective is listed on slide 4 as long-term cost reduction. He expressed the understanding that other than providing adequate and consistent power, the second priority of utility companies is to provide low rates to customers. He expressed the opinion that companies would seek cost reductions with or without the legislation. He requested an explanation of the legislation's capability to encourage long-term cost reductions outside of the motivations that the utility companies already have.

MR. PATCH explained one of the attractive elements of renewable energy is that there would be no cost associated with the resource. For example, there is no cost to the wind, but there would be infrastructure cost to harness the wind. He stated that if the technology is efficient, such as a wind tower, energy generation could be maximized. He said that presently

energy is gas generated, and the ratepayers would have to pay the cost to retire the built assets of fuel-fire generation. He surmised that, if careful over the long run, cost savings could be achieved with free-power-source energy, but the existing infrastructure would need to be paid off over time. He expressed the opinion that there would be an opportunity in the long term for cost reduction and fuel-cost savings.

REPRESENTATIVE RAUSCHER questioned whether expanding the renewable energy portfolio would be the best way to diversify Alaska's energy supply and increase energy security. He voiced concern about the loss of economic activity if Alaska is forced to move from reliable sources of energy to intermittent sources. He questioned whether it would be feasible to attain energy levels with percentages of intermittent solar and wind. He suggested that blackouts and brownouts may result and questioned the methods utility companies would use to provide electricity in these situations.

MR. PATCH voiced the opinion that not all of the Railbelt utilities would completely abandon thermal generation capacity.

REPRESENTATIVE RAUSCHER, with a follow-up question, clarified that [in alignment with the legislation] 80 percent of energy would be reliant on solar and wind. Considering this, he questioned whether unforeseen blackouts would result from the inability to maintain the [energy] supply.

[10:38:27 AM](#)

MR. PATCH expressed the belief that [maintaining the energy supply] would be possible. He stated that, to deal with the brownouts, plans are being made for improved battery storage in the Railbelt; once this concern has been addressed, reserves could be used with a quick-ramp thermal source to address a catastrophic event and shorten a blackout. He noted that he is not an expert in power management, but there are qualified managers who carefully monitor the rate of power available for distribution to customers.

MR. PATCH, responding to Chair Schrage, explained a brownout happens when there is insufficient power to reach all the homes within a distribution area of the utility. If there is "frequency degradation," electricity will be intermittent.

REPRESENTATIVE FIELDS, with a follow up on Representative Rauscher's question, voiced the opinion that due diligence has

not been done on HB 301 to justify the [percentages]. Nevertheless, he suggested that by using wind, solar, batteries, hydro, and some gas capacity, a higher percentage of renewable energy could be attained. He conjectured that if wind and solar ramp down, batteries and gas could be used over the course of the year, and the levels may average out to be 80 percent. He questioned whether this is a correct perspective of the proposed legislation.

MR. PATCH responded in the affirmative.

REPRESENTATIVE FIELDS, for the record, emphasized that it is not certain that a higher [percentage of renewable energy] would result in blackouts and brownouts. He stated that the "technology is there," but the right [percentage] has yet to be demonstrated.

[10:40:37 AM](#)

MR. PATCH indicated that Alaska has been considering renewable energy options in the Railbelt's portfolio mix for 12 years, since the enactment of a state energy policy. He stated that the policy has been criticized as being aspirational, nevertheless there has been an impact. Slide 5 highlighted some achievements and goals made since the state's energy policy began. He pointed out that on a national level some states have had renewable standards as early as 2012, while other states have had renewable goals. He reminded the committee that Alaska adopted renewable energy goals in 2010, and the proposed legislation would create a renewable standard. He offered slide 6 as a snapshot of the changes in the nation.

[10:43:49 AM](#)

REPRESENTATIVE RAUSCHER questioned whether there is data which shows electricity rates changing in states with renewable energy standards.

MR. PATCH expressed the opinion that the National Renewable Energy Laboratory (NREL) has data, and several universities have studied the issue. He said there is probably some data addressing rate variation and the percentages in these states, but he has not researched the issue. He offered to follow up with a supplement on the data after the meeting.

[10:45:43 AM](#)

CHAIR SCHRAGE commented that slide 6 shows states shifting from having no renewable energy policies to either [renewable energy] goals or standards. He provided the interpretation that states do not seem to be abandoning [renewable energy] goals or standards.

MR. PATCH pointed out on slide 8 a snapshot of [energy production by source] for the nation and Alaska. He listed the common sources used for energy production: oil and gas, coal, renewable energy, hydroelectric, and nuclear power. He stated that 70 percent of the nation's power source is oil and gas. He provided the following breakdown of Alaska's power sources: 65 percent from oil and gas, 27 percent from hydroelectric generation, and 2 percent from renewable energy sources. He explained if the Susitna-Watana Hydroelectric Project is built, it would produce as much as 58 percent of the energy production within the Railbelt. He added that with 2 percent from renewable energy, this would achieve 60 percent, which would still be short of the 80 percent target [proposed in the legislation]. He explained that the 80 percent target would not be realized until after the Susitna-Watana project is fully operational. He offered that this may address Representative Rauscher's question on the reasonability of the targeted percentage. He emphasized that this is just a comment, and he is not answering Representative Rauscher's question.

[10:49:17 AM](#)

MR. PATCH stated that AEA takes pride in the Bradley Lake Hydroelectric Project. The Bradley Lake project supplies energy to the Railbelt, which contains the largest concentration of population in the state. He pointed out the project's specifics listed on slide 9, commenting that hydroelectric energy is renewable with clean benefits. He said that in recent history the energy value of the Bradley Lake Project has been supplemented by the Battle Creek Project. As shown on slide 10, the Dixon Diversion Project is a supplement that is being considered by AEA. He explained that, if this project were advanced, more water would be made available behind the dam face to move through the turbine generators, increasing the energy supply. There are two options being considered for the Dixon Diversion Project: a tunnel constructed from the Dixon Glacier to Bradley Lake, and a powerhouse built on Martin River. Slide 11 shows the timeline for the Dixon Diversion Project and the yearly approximate cost.

[10:52:41 AM](#)

REPRESENTATIVE ZULKOSKY questioned AEA's plans to move forward with the funding for [the Dixon Diversion Project] in the upcoming fiscal years. She questioned whether state unrestricted general funds would be used.

CHAIR SCHRAGE requested that Mr. Patch prepare the information for Mr. Thayer to present when he comes before the committee in a future meeting.

MR. PATCH responded in the affirmative. He stated that between January 25 and January 26 of this year AEA achieved a peak demand of 820 megawatts. Slide 12 and slide 13 depict the energy resources used to meet this peak demand. He offered that the peak demand had been met with no brownouts or blackouts, and all customers were served. He opined that there is a difference in meeting the demand with hydro and meeting the demand with other resources. He stated that in this case there was a predominant deployment of wind and battery. He apologized for the lack of promised information from NREL on fuel-cost savings pertaining to these two slides. Nevertheless, it can be taken away that using a combination of resources could meet significant Railbelt demand. He offered to follow up with a supplement when he receives the data [from NREL].

CHAIR SCHRAGE requested that Mr. Patch define "BESS" and "PV" which appear on the slide.

MR. PATCH explained that "BESS" signifies a battery [energy] storage system. He reiterated that batteries are being built within the Railbelt, as they can act quickly to meet inadequate generation and brownout concerns. He stated that "PV" [photovoltaic] refers to solar energy.

[10:56:44 AM](#)

REPRESENTATIVE RAUSCHER, referring to the list of energy sources on slide 12, expressed concern that biomass would not be easily attained in the Interior and Western Alaska. He expressed the opinion that neither geothermal nor hydro would work in the winter. Concerning wind energy, he said, "I've seen very calm days up north ... for weeks and weeks at a time without any sunlight." He requested an explanation on the prospect of meeting the percentage demands in these areas "utilizing even half of the list."

MR. PATCH explained that HB 301 would impact regulated electric utilities and probably would not affect areas outside of the Railbelt. He said areas like Utqiagvik would not be covered by HB 301. In response to a follow-up question, he clarified that the proposed legislation would address regulated electric utilities in the Railbelt.

[10:59:46 AM](#)

BOB PICKETT, Commissioner, Regulatory Commission of Alaska, Department of Commerce, Community, & Economic Development, clarified that there are regulated utilities throughout the state, but the structure of the legislation deals with the bulk interconnected Railbelt system; areas not part of the bulk electric system would not be affected. In response to Representative Rauscher, he explained that Copper Valley would not be affected by the legislation because it is not interconnected to the bulk electric system. He added that Copper Valley would be included if, at some point, there is an interconnection between Glennallen and the Matanuska electric service areas. In response to a follow-up question, he said [the proposed legislation] would cover five cooperatives up and down the Railbelt.

[11:01:32 AM](#)

REPRESENTATIVE KAUFMAN, in reference to the energy mix presented on slide 12, questioned the uniformity of the wind bandwidth depicted on the graph. He questioned the representation of wind reacting in a uniform matter as plotted on the graph.

MR. PATCH voiced the understanding that, as the sun heats the earth, wind follows a predictable pattern, and wind is generated in a belt-like distribution.

REPRESENTATIVE KAUFMAN, with a follow-up comment, clarified that his question had not been about the amplitude, but about the mix. He stated that wind power depicted in the graph seems like a uniform band. He expressed the expectation that [the level of power generated by the wind would fluctuate].

CHAIR SCHRAGE requested clarification on the consistency of the wind power.

MR. PATCH voiced his understanding that the slide intends to depict the demand for wind power, not wind power [generation]. He explained that he did not create the graph, and he reiterated

the unavailable numbers for these slides would have shown the fuel-cost savings per demand.

CHAIR SCHRAGE, with follow-up comment, stated that each of these energy sources may have surplus capacity that could be tapped to meet demand. He related the understanding that [the graph depicts] the utilization of an energy resource, not the amount of energy produced by the resource to meet demand.

MR. PATCH confirmed Chair Schrage's statement.

REPRESENTATIVE KAUFMAN, with a follow-up comment, voiced curiosity between the uniformity of the wind bandwidth versus the variation in hydro bandwidth.

CHAIR SCHRAGE interjected that this question may be deferred to energy experts [in a subsequent hearing].

[11:06:30 AM](#)

REPRESENTATIVE FIELDS, in relation to Representative Kaufman's question, referenced page 16 of NREL's report and the output of wind [energy] over time. He stated that every scenario in the report, except the Susitna-Watana Project, has a high percentage of energy provided by wind. He expressed the opinion that the Susitna-Watana Project would be a multi-billion-dollar investment with zero political energy for the capital outlay, and, because of this, the project would not be built. He expressed the opinion that the federal government would not fund the project either. He said, "I think it is silly that we would consider an 80 percent target predicated on Susitna-Watana." He stated that without the Susitna-Watana project there would need to be a very high percentage of energy provided by wind during the course of the year. He questioned the number of states in the Lower 48 which presently have wind supplying this amount of energy. To create a steadier energy supply, he questioned whether the high output of energy from the wind would require a corresponding investment in pump storage.

MR. PATCH voiced the belief that there are states in the Lower 48 which engage, produce, and sell extremely high percentages of wind energy. He stated that he does not have a copy of the NREL document for reference, so he does not have a specific response, and he does not know the availability of pump storage to support wind in the Lower 48.

REPRESENTATIVE FIELDS, with a follow-up question, clarified that to achieve any of the scenarios [listed in the NREL study] which utilize high percentages of wind utilization, investments in pump storage would have to be made. He stated that in the rest of the country wind can be dispatched across state lines. He argued that, in respect to wind percentages in Alaska, the context should be "an island grid."

MR. PATCH responded that [using an island grid for Alaska] would be "wise." He pointed out that Representative Fields raised a different question concerning the necessary investment for transmission expenditures. He stated that enhanced transportation capabilities to move energy [would need to be funded], and this applies to all energy sources.

[11:09:58 AM](#)

REPRESENTATIVE RAUSCHER expressed the opinion that without building the Susitna-Watana Project, as Representative Fields suggested, RPS levels would not be obtained, as this project would be a key part of obtaining levels in the Railbelt.

[11:10:30 AM](#)

REPRESENTATIVE FIELDS, with a follow up on Representative Rauscher's point, questioned whether pump storage capacity up and down the Railbelt would provide enough hydro capacity if the Susitna-Watana Project did not go through.

CHAIR SCHRAGE requested that Mr. Patch follow up with this information after the meeting.

[11:11:09 AM](#)

MR. PATCH, moving to slide 14, stated that upgrades would be necessary for not just the production of power, but for the movement of generated power and the delivery to the load. He noted that Railbelt utilities have worked to optimize the availability and delivery of renewable and conventional energy. He stated that AEA is working with the Railbelt electric utilities, studying [energy transmission]. He pointed out that the projects listed on Slide 15 have schedules and projected budgets for achieving transmission. He stated that the total cost for all the projects would be an estimated \$261 million.

[11:13:04 AM](#)

REPRESENTATIVE FIELDS acknowledged that AEA has been mapping out [energy transmission lines] for some time. He said, "Rather than fund these, we've spent billions of dollars on PFDs, so I think our record shows where our priorities have been." He stated that the administration has suggested using some of the oil windfall this year to fund critical transmission capital projects.

MR. PATCH responded that he has not been part of this discussion.

REPRESENTATIVE FIELDS suggested that AEA could respond in the future. With a follow-up question, he asked the amount ratepayers would have to pay for the [transmission capital projects] if they were not funded by the oil windfall. He requested that AEA model this and provide an answer at a later date.

[11:14:03 AM](#)

REPRESENTATIVE ZULKOSKY reflected on Representative Rauscher's request for follow-up information from AEA on the interconnected data [used to set the percentages in RPS] and the final cost to consumers. She requested that AEA also follow up with information on the proposed legislation's ability to reduce costs for consumers statewide, not just the Railbelt. She pointed out that [the legislation proposes] significant state investment in renewable projects in communities which already benefit from the lowest cost of energy in the state. She stated that AEA has not presented an assessment of the [the proposed legislation's impact] on non-Railbelt communities. She speculated that AEA's response would be that these costs create "a floor" for PCE communities. She argued that there is a continual lack of [energy] innovation reaching PCE communities. She continued that PCE has been scrutinized in the Railbelt Project as a financial instrument and not been presented as part of the infrastructure. She requested to hear from AEA about how its proposals would benefit all communities in Alaska. She voiced skepticism that any of the energy innovations being pursued in the state would have statewide reach. She expressed disappointment in the lack of compelling arguments to ensure all of Alaska is being considered for energy solutions.

MR. PATCH responded that he understands Representative Zulkosky's concern. He pointed out that REF has delivered over \$275 million in renewable energy projects, and the proposed HB 358 would extend its sunset date. He stated that presently AEA has

received applications from 39 communities seeking funding for renewable energy projects. The applications are being reviewed by the Department of Natural Resources, scored by contacted economists, and evaluated by engineering experts. After this process the applications would go before the Renewable Energy Advisory Committee. The accepted applications would then be submitted to the legislature for consideration for funding. He pointed out that this exemplifies that there is value, thought, consideration, and effort for renewable energy projects, specifically for rural Alaska.

[11:19:44 AM](#)

REPRESENTATIVE FIELDS, in conjunction with his previous information request on capital funds, requested information concerning whether capital funding would be used by the administration for the AEA prioritized list of renewable projects. In reference to Representative Zulkosky's point, he stated that the list includes multiple rural projects which have been before the legislature, but no capital requests have been made, and "we need to put our money where our mouth is."

[11:20:36 AM](#)

REPRESENTATIVE KAUFMAN, in reference to Representative Fields' point, stated that he has heard about "alternative energy," but he questioned whether there are "energy alternatives." He posited that the available mix of energy across the state could be optimized economically over time without a "political percentage mandate." He questioned whether there has been a proposal or plan addressing a statewide scope of alternatives, including traditional, renewable, and nuclear energies. He questioned how an optimal mix would look driven by market economics.

CHAIR SCHRAGE requested Mr. Patch speak to AEA's analysis and planning efforts which currently exist or have been planned.

MR. PATCH voiced the expectation that in the near future [RCA] will have "a body that may be able to do precisely what it is you want ... in terms of Railbelt energy." He said the organization is in the early stages of development and would address electric reliability. This organization would undertake the preparation of an integrated resource plan for the Railbelt. He stated there are older studies by AEA regarding energy mixes and deployment of energy resources in rural Alaska. He offered

the belief that the most recent study would be dated, but he would provide the committee with a copy of the study.

REPRESENTATIVE KAUFMAN responded that if the committee is choosing options, a broad spectrum of options would be better.

[11:23:19 AM](#)

MR. PATCH, continuing with the presentation, clarified that the projects listed on slide 15 would be funded by the ratepayers of the Railbelt utility, not by the state. He stated that slide 16 is an overview of the Alaska Intertie, which moves power north from Willow to Healy. The Intertie is operated jointly by AEA and Railbelt utilities, and the transmission line improves the reliability of energy distribution. It allows Golden Valley to connect to and receive the benefit of lower cost energy purchased from the Anchorage area, and, for these customers, there is an annual cost savings of \$30 million.

MR. PATCH stated that slide 17 lists the costs of projects which would maximize the delivery of energy. He stated that slide 18 shows a brief history of the Susitna-Watana Hydroelectric Project, and page 22 of the Appendix shows a rough timeline for this project. He thanked committee members for their attention, and he stated that he has noted the questions which require a future response.

[11:26:29 AM](#)

REPRESENTATIVE RAUSCHER questioned whether the goal of HB 301 would be to reduce carbon.

MR. PATCH responded that he does not have the authority to answer the question. He expressed the belief that the objective of the legislation would be to incorporate renewable energy into the portfolio mix of each of the Railbelt utilities, with the view towards lowering cost. He said, "I am not the person you can speak to whether or not the greenness of the energy is its principal objective."

REPRESENTATIVE RAUSCHER requested that [AEA present] the following information to the committee in the future: the amount of carbon the proposed legislation would reduce; the stages the carbon reduction would occur; and the benefit the state would have with a reduced carbon footprint. He offered the assumption that carbon reduction is the reason for the bill. He referenced an earlier comment that wind, water, and solar are free. He

argued that, if this is so, the bill should create cheaper rates for the ratepayer; but because ratepayers would have to pay the installation costs over time, it would result in an increase in rates. He expressed the opinion that Alaskans are already struggling with high utilities. He posited that, instead of focusing on the requirement that certain forms of energy be on the grid, there should be a reliability and resiliency standard, especially considering military readiness in the world stage today.

[HB 301 was held over.]

[11:29:34 AM](#)

ADJOURNMENT

There being no further business before the committee, the House Special Committee on Energy meeting was adjourned at 11:29 a.m.