

OPINION: Mandates to accelerate renewable energy transition are bad policy

By [Robert Seitz](#)

Updated: 1 hour ago Published: 1 hour ago



Power lines are highlighted by the setting sun along Turnagain Arm and the Seward Highway south of Anchorage, Alaska on Sunday, March 26, 2017. (Bob Hallinen photo)

Senate Bill 101 and House Bill 121 have been introduced with the intent of forcing the Railbelt utilities to accelerate the pace at which they incorporate renewable energy sources into their systems.

My [opinion piece](#) published Sept. 3, 2022, addressed why this type of legislation is impractical at this time. This and other commentaries I have submitted over the past six years address the need for a plan and long-term energy storage before high penetration of renewable sources can be accomplished in the Railbelt electric utility system.

My experience is that solar and wind installations are being installed throughout the Railbelt and will continue without a legislative mandate to the extent it can be accommodated by existing generation. There are now more independent power producers proposing solar and wind installations, some with significant capacity. It will be very difficult to expand the solar and wind enough to make the impact that many desire. Outside Alaska, there are actual grids to which solar and wind resources are edge-connected (connected to the edge of the grid) with large impact. Alaska really does not have a grid, so there is not much edge for connection. Identifying property on which these resources can be installed is difficult, as much of Alaska is in federal ownership, or would likely find many objections to the

installation of wind turbines, electrical transmission towers and poles to get the power to our skinny grid. The available property that is best for renewable energy projects is often a great distance from existing power lines, which results in expensive connection costs.

The various utilities that make up the Railbelt power transmission infrastructure are each developing their own programs to try out different technologies, identify the possible instabilities they might have in their system, considering what base energy source and what long-term energy source will best replace natural gas for electrical generation. This takes time and complex analysis.

As I have stated in the other commentaries the other renewable energy technologies from which we should be able to extract higher-density energy, such as geothermal, tidal, nuclear or ocean wave, are still being developed and cannot be depended upon to allow the percentage of renewable energy for the Railbelt in the time frame included in the proposed legislation. Each of the utilities has been investigating their particular systems for inclusion of battery energy storage systems, flywheel energy storage units and utility-scale wind and solar installations, to figure out what selections are the best choice for their portion of the Railbelt. The selection of “best choice” is related to how well it supports firming the variable renewable power to create a renewable energy system, not just a wind or solar farm. Batteries are only good for short-term use. Each utility must determine what long-term energy source will provide base power to use in place of coal and natural gas. The forecast for Cook Inlet tidal energy is 100MW by 2035.

Long-term energy storage in the form of hydropower, pumped hydropower or hydrogen (gas or liquid, as methanol or ammonia) is not likely to develop in time to benefit the system any time soon. Kerry Williams proposed converting Eklutna Lake into a series of pumped hydro reservoirs that are located together a few years ago, but no one has jumped on that bandwagon. It could still be a realistic and realizable energy project.

Imposing the time constraints on the Railbelt utilities at a time when they cannot control the interest of customers and independent power producers to install renewable energy resources to the system and cannot improve the development time of the various technologies that are currently being investigated, is not a realistic or reasonable expectation. If the time mandated is too short, it would result in high risk and high cost to the members of the cooperatives. Then to impose fines against the utilities when they cannot meet the goals is doubly unreasonable. They are now able to work on the development of a plan or plans to move forward with various renewable scenarios, but it will take time.

The commentary in the ADN on April 14 by Bettina Chastain and Arthur Miller, [“Anchorage’s electric utility is making progress on its clean-energy goals,”](#) described the efforts that Chugach Electric Association has made and is making. With the stated objectives of providing safe, reliable, affordable and sustainable energy, it will take planning and time, to get to where the utility can make the choices.

Just stringing new transmission lines to provide redundant paths to flow energy from one end of the system to the other may not be near enough. This transmission line installation could take as much as 15 years to complete. If the transition includes “electrification of everything,” the forecast is that we will need to increase the power generation three times what we use now, which will require a lot more transmission line capacity, an increase of the capacity of the distribution lines and upsizing of service to all the residences and businesses. That is going to take a lot of planning.

The proposed legislation excludes nuclear power, even in the form of micro-reactors, which is contrary to efforts introduced through legislation last year. Nuclear energy is one resource that has high energy density, long-term storage and zero carbon in its production of energy. Micro-reactors could be the energy solution for development of microgrids between the larger towns along the Railbelt Utility.

Gov. Mike Dunleavy and Doug Tansy had a [commentary](#) published in the ADN on March 31 that shows Alaska state leadership has been working to mobilize various groups of workers, engineers and entrepreneurs to work through all the issues that are at hand. Carbon capture and sequestration is one way to continue the use of natural gas and coal as our source of energy while reducing fossil fuel CO2 production. Dunleavy's efforts have made this a choice for our power systems.

Legislation that enables new power sources, and which provides a positive incentive for research and installations, will get us to a new system much faster than legislation that mandates progress when there is no plan, and punishes us for not meeting the deadline. Concern for a forecast that Cook Inlet area will run out of natural gas by 2027 has many concerned and motivated to try to find a "green solution" immediately. Tim Bradner had an article published in The Link in March stating that Hilcorp is working to drill new wells for natural gas, and BlueCrest and Furie have gas deposits that will easily supplement Hilcorp's natural gas supply to provide sufficient gas to get us past 2027. Financing and investing are all it takes to develop these deposits. Legislation that mandates progress when there is no plan, and punishes us for not meeting the deadline. Concern for a forecast that Cook Inlet area will run out of natural gas by 2027 has many concerned and motivated to try to find a "green solution" immediately. Tim Bradner had an article published in The Link in March stating that Hilcorp is working to drill new wells for natural gas, and BlueCrest and Furie have gas deposits that will easily supplement Hilcorp's natural gas supply to provide sufficient gas to get us past 2027. Financing and investing are all it takes to develop these deposits.

Enabling legislation to help with these financial issues would help keep the gas flowing as the Railbelt utilities work out the plan for advancing beyond natural gas. We still need energy and the economy that natural gas provides to develop the new system of the future. We must be pragmatic in our consideration of energy issues. We need to stick with what works until well after we have proven new sources of energy incorporated to ensure we have achieved sustainability and resiliency.

Robert Seitz, PE, is an electrical engineer and lifelong Alaskan.

<https://www.adn.com/opinions/2023/04/26/opinion-mandates-to-accelerate-renewable-energy-transition-are-bad-policy/>