Good morning.

I oppose bill 14 52 for three reasons.

- First, it is a poor use of Legacy funds,
- Second, it creates an energy authority which is clearly biased towards one industry. This is how you make the free market less efficient rather than more efficient.
- Third, this bill fails to address a core problem facing all energy producers in North Dakota: that of being stuck in a sell-low, buy-high cycle.

This is a problem that does have solutions – but creating a biased energy authority isn't one of them.

The problem that energy producers face today is very similar to the problem grain producers faced 100 years ago.

100 years ago, grain producers had no way to store their grain. In the fall when North Dakota farmers harvested their grain, they had to sell it - even when the price plummeted. In the spring when they needed to buy seed, they had to pay whatever the price was - typically absurdly high. This left them in a sell-low, buy high cycle.

To solve this problem, rather than establishing a grain authority similar to what bill 14 52 proposes, our state legislature built a state-owned elevator: essentially state-owned grain storage. What this did is it allowed farmers to hold their grain in the fall until they could get a fair price. It also allowed farmers to hold some of their grain until spring for use as seed. By creating a state-owned grain storage facility, the state legislature made North Dakota wheat more valuable, helping to make the free market work better for people in North Dakota.

Today, energy producers have the same problem: there is no way to store energy. Like the grain farmers 100 years ago, this puts wind, solar, and coal in a sell low, buy high cycle.

Presently, when energy is produced in North Dakota, it has to be sold or used: it cannot be stored. When the wind blows, the sun shines, and the coal plants are churning out electricity, prices can plummet below production costs. This hurts wind, solar, and coal. Wind and solar are hurt because prices plummet at the times when they are producing the most. Coal is hurt because it has to be run at a constant rate: the coal units continue to churn out electricity even when the spot market price drops below the production cost.

The solution to this problem isn't bill 14 52 and the creation of a biased energy authority. Instead, it is the same solution that our state legislature came up with 100 years ago: we need state-owned energy storage.

State-Owned Energy Storage would enhance the value of North Dakota energy.

- First, it provides a demand for the times when the wind is blowing, the sun is shining, and coal is producing.
- Second, and more importantly, it allows you to shave off the peak in the demand at 8am and 6pm.

What this does is:

- It allows the power output of the coal plants to be reduced. Utilities are required to have generators on the ready to meet the peak demand. By reducing this peak, the amount of generation required to meet demand is reduced.
- By reducing the output of the coal plants for the entire day, more space is created to absorb the energy produced by wind and solar.
- This in turn avoids overproduction, which helps to keep the spot-market price of electricity at a more fair price for everyone.

By adding energy storage, everyone in North Dakota benefits:

- Coal, wind, and solar benefit: they get a more reasonable price for the energy they produce.
- North Dakota citizens also benefit: when spot-market prices drop below production costs, North Dakota is actually subsidizing out of state users. At those times, we are transferring money to people out of state.

State-owned energy storage would be a better use of Legacy funds since it enhances the value of multiple North Dakota resources: wind, solar, and coal. It even has the potential to generate revenue for the state – all things that bill 14 52 does not do.

In summary, I oppose bill 14 52 because

- It is a poor use of Legacy funds,
- It makes the free market less efficient in North Dakota, and
- It fails to address a core problem all energy producers face: the lack of energy storage which puts all energy producers in a sell-low, buy-high cycle.

I thank you for your time.

Jacob Glower Professor in Electrical and Computer Engineering Fargo, North Dakota