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State of Minnesota

HOUSE OF REPRESENTATIVES

NINETIETH SESSION

H. F. No. 4046

03/19/2018 Authored by Rarick and Anselmo
The bill was read for the first time and referred to the Committee on Job Growth and Energy Affordability Policy and Finance

1.1 A bill for an act
1.2 relating to energy; requiring investor-owned utilities to include in integrated
1.3 resource plans an assessment of energy storage systems; requiring a cost-benefit
1.4 analysis of energy storage systems; requiring consideration of energy storage
1.5 deployment targets; appropriating money; requiring a report; amending Minnesota
1.6 Statutes 2016, section 216B.2422, subdivision 1, by adding a subdivision.

1.7 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF MINNESOTA:

1.8 Section 1. Minnesota Statutes 2016, section 216B.2422, subdivision 1, is amended to read:

1.9 Subdivision 1. **Definitions.** (a) For purposes of this section, the terms defined in this
1.10 subdivision have the meanings given them.

1.11 (b) "Utility" means an entity with the capability of generating 100,000 kilowatts or more
1.12 of electric power and serving, either directly or indirectly, the needs of 10,000 retail
1.13 customers in Minnesota. Utility does not include federal power agencies.

1.14 (c) "Renewable energy" means electricity generated through use of any of the following
1.15 resources:

1.16 (1) wind;

1.17 (2) solar;

1.18 (3) geothermal;

1.19 (4) hydro;

1.20 (5) trees or other vegetation;

1.21 (6) landfill gas; or

2.1 (7) predominantly organic components of wastewater effluent, sludge, or related
2.2 by-products from publicly owned treatment works, but not including incineration of
2.3 wastewater sludge.

2.4 (d) "Resource plan" means a set of resource options that a utility could use to meet the
2.5 service needs of its customers over a forecast period, including an explanation of the supply
2.6 and demand circumstances under which, and the extent to which, each resource option
2.7 would be used to meet those service needs. These resource options include using,
2.8 refurbishing, and constructing utility plant and equipment, buying power generated by other
2.9 entities, controlling customer loads, and implementing customer energy conservation.

2.10 (e) "Refurbish" means to rebuild or substantially modify an existing electricity generating
2.11 resource of 30 megawatts or greater.

2.12 (f) "Energy storage system" means commercially available technology capable of
2.13 absorbing and storing electrical energy, and delivering stored electrical energy for use at a
2.14 later time. For purposes of this section, energy storage systems must be from a stationary
2.15 source. For purposes of this section:

2.16 (1) an energy storage system may be:

2.17 (i) either centralized or distributed; or

2.18 (ii) owned by a load-serving entity or local publicly owned electric utility, a customer
2.19 of a load-serving entity or local publicly owned electric utility, a third party, or jointly owned
2.20 by two or more of the entities under this item or any other entity;

2.21 (2) an energy storage system must:

2.22 (i) reduce demand for peak electrical generation;

2.23 (ii) defer or substitute for an investment in generation, transmission, or distribution
2.24 assets; or

2.25 (iii) improve the reliable operation of the electrical transmission or distribution grid;
2.26 and

2.27 (3) an energy storage system must:

2.28 (i) use mechanical, chemical, or thermal processes to store energy that was generated
2.29 at one time for use at a later time;

2.30 (ii) store thermal energy for direct use for heating or cooling at a later time in a manner
2.31 that reduces the demand for electricity at that later time;

3.1 (iii) use mechanical, chemical, or thermal processes to store energy generated from
 3.2 renewable resources for use at a later time; or

3.3 (iv) use mechanical, chemical, or thermal processes to store energy generated from
 3.4 mechanical processes that would otherwise be wasted for delivery at a later time.

3.5 (g) "Investor-owned utility" means a utility, as defined in paragraph (b), that is owned
 3.6 by private persons.

3.7 Sec. 2. Minnesota Statutes 2016, section 216B.2422, is amended by adding a subdivision
 3.8 to read:

3.9 Subd. 7. **Energy storage systems assessment.** (a) Each investor-owned utility must
 3.10 include as part of an integrated resource plan or plan modification filed by the investor-owned
 3.11 utility an assessment of energy storage systems. The assessment must:

3.12 (1) consider energy storage systems as both transmission and distribution-interconnected
 3.13 resources;

3.14 (2) analyze energy storage systems both as an alternative for and as an adjunct to
 3.15 generation resources for ancillary services and resource adequacy; and

3.16 (3) require that in any prudence determination for a new resource acquisition that resource
 3.17 options analysis must include a storage alternative.

3.18 (b) In approving a resource plan, the commission must determine, with respect to the
 3.19 assessment required in paragraph (a), whether:

3.20 (1) the utility's forecast requirements are based on substantially accurate data and an
 3.21 adequate forecasting method;

3.22 (2) the plan identifies and takes into account any present and projected reductions in
 3.23 energy demand that may result from measures to improve energy efficiency in the industrial,
 3.24 commercial, residential, and energy-producing sectors of the area being served; and

3.25 (3) the plan includes appropriate and up-to-date methods for modeling resources,
 3.26 including the modeling and valuing of flexible operations.

3.27 Sec. 3. **COST-BENEFIT ANALYSIS OF ENERGY STORAGE SYSTEMS.**

3.28 (a) The commissioner of commerce must contract with an independent consultant selected
 3.29 through a request for proposal process to produce a report analyzing the potential costs and
 3.30 benefits of energy storage systems, as defined in Minnesota Statutes, section 216B.2422,

4.1 subdivision 1, in Minnesota. In examining the cost-effectiveness of energy storage systems,
 4.2 the study must analyze:

4.3 (1) cost savings to ratepayers from the provision of services, including, but not limited
 4.4 to, energy price arbitrage, ancillary services, resource adequacy, and transmission and
 4.5 distribution asset deferral or substitution;

4.6 (2) direct-cost savings to customers that deploy energy storage systems;

4.7 (3) an improved ability to integrate renewable resources;

4.8 (4) improved reliability and power quality;

4.9 (5) the effect on retail electric rates over the useful life of a given energy storage system
 4.10 compared to the impact on retail electric rates using nonenergy storage system alternative
 4.11 over the useful life of the nonenergy storage system alternative;

4.12 (6) reduced greenhouse gas emissions; and

4.13 (7) any other value reasonably related to the application of energy storage system
 4.14 technology.

4.15 (b) By December 31, 2018, the commissioner of commerce shall submit the study to
 4.16 the chairs and ranking minority members of the legislative committees with jurisdiction
 4.17 over energy policy and finance.

4.18 **Sec. 4. ENERGY STORAGE DEPLOYMENT TARGETS.**

4.19 (a) No later than 180 days after completion of the energy storage systems cost-benefit
 4.20 study required under section 3, the Public Utilities Commission may consider and make a
 4.21 determination regarding appropriate energy storage deployment targets, if any, for each
 4.22 investor-owned utility to be achieved by December 31, 2025, including any interim targets.

4.23 (b) In making a determination on appropriate energy storage deployment targets, the
 4.24 commission may:

4.25 (1) predicate its decisions in part on the outcome of the energy storage systems
 4.26 cost-benefit study required under section 3;

4.27 (2) consider guidelines for the deployment of systems that are sited behind a customer
 4.28 meter and systems that are directly connected to transmission or distribution facilities;

4.29 (3) consider adopting deployment targets that require processes for:

4.30 (i) competitive deployment of energy storage services from other parties; and

5.1 (ii) direct purchase of storage devices; and

5.2 (4) establish appropriate accountability mechanisms for investor-owned utilities to
5.3 procure energy storage in sufficient quantities to meet the targets established by the
5.4 commission.

5.5 **Sec. 5. APPROPRIATION.**

5.6 \$..... in fiscal year 2019 is appropriated from the renewable development account in
5.7 the special revenue fund established in Minnesota Statutes, section 116C.779, subdivision
5.8 1, to conduct the energy storage systems cost-benefit analysis described in section 3.