

**SENATE
STATE OF MINNESOTA
NINETY-THIRD SESSION**

S.F. No. 4760

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OFFICIAL STATUS
Introduction and first reading
Referred to Energy, Utilities, Environment, and Climate

1.1 A bill for an act
1.2 relating to energy; providing for and governing pilot thermal energy network
1.3 projects; authorizing administrative rulemaking; requiring a report; amending
1.4 Minnesota Statutes 2022, sections 216B.02, subdivision 6; 216B.2427, subdivision
1.5 1, by adding subdivisions; Minnesota Statutes 2023 Supplement, section 216B.243,
1.6 subdivision 8.

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

1.8 Section 1. Minnesota Statutes 2022, section 216B.02, subdivision 6, is amended to read:

1.9 Subd. 6. **Service.** "Service" means natural, manufactured, or mixed gas, ~~and~~ electricity,
1.10 and thermal energy; and the installation, removal, or repair of equipment or facilities for
1.11 delivering or measuring such gas, ~~and~~ electricity, and thermal energy.

1.12 Sec. 2. Minnesota Statutes 2022, section 216B.2427, subdivision 1, is amended to read:

1.13 Subdivision 1. **Definitions.** (a) For the purposes of this section and section 216B.2428,
1.14 the following terms have the meanings given.

1.15 (b) "Biogas" means gas produced by the anaerobic digestion of biomass, gasification of
1.16 biomass, or other effective conversion processes.

1.17 (c) "Carbon capture" means the capture of greenhouse gas emissions that would otherwise
1.18 be released into the atmosphere.

1.19 (d) "Carbon-free resource" means an electricity generation facility whose operation does
1.20 not contribute to statewide greenhouse gas emissions, as defined in section 216H.01,
1.21 subdivision 2.

1.22 (e) "Disadvantaged community" means a community in Minnesota that is:

2.1 (1) defined as disadvantaged by the federal agency disbursing federal funds, when the
2.2 federal agency is providing funds for an innovative resource; or

2.3 (2) an environmental justice area, as defined under section 216B.1691, subdivision 1.

2.4 ~~(e)~~ (f) "District energy" means a heating or cooling system that is solar thermal powered
2.5 or that uses the constant temperature of the earth or underground aquifers as a thermal
2.6 exchange medium to heat or cool multiple buildings connected through a piping network.

2.7 ~~(f)~~ (g) "Energy efficiency" has the meaning given in section 216B.241, subdivision 1,
2.8 paragraph (f), but does not include energy conservation investments that the commissioner
2.9 determines could reasonably be included in a utility's conservation improvement program.

2.10 ~~(g)~~ (h) "Greenhouse gas emissions" means emissions of carbon dioxide, methane, nitrous
2.11 oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride emitted by
2.12 anthropogenic sources within Minnesota and from the generation of electricity imported
2.13 from outside the state and consumed in Minnesota, excluding carbon dioxide that is injected
2.14 into geological formations to prevent its release to the atmosphere in compliance with
2.15 applicable laws.

2.16 ~~(h)~~ (i) "Innovative resource" means biogas, renewable natural gas, power-to-hydrogen,
2.17 power-to-ammonia, carbon capture, strategic electrification, district energy, and energy
2.18 efficiency.

2.19 ~~(i)~~ (j) "Lifecycle greenhouse gas emissions" means the aggregate greenhouse gas
2.20 emissions resulting from the production, processing, transmission, and consumption of an
2.21 energy resource.

2.22 ~~(j)~~ (k) "Lifecycle greenhouse gas emissions intensity" means lifecycle greenhouse gas
2.23 emissions per unit of energy delivered to an end user.

2.24 ~~(k)~~ (l) "Nonexempt customer" means a utility customer that has not been included in a
2.25 utility's innovation plan under subdivision 3, paragraph (f).

2.26 ~~(l)~~ (m) "Power-to-ammonia" means the production of ammonia from hydrogen produced
2.27 via power-to-hydrogen using a process that has a lower lifecycle greenhouse gas intensity
2.28 than does natural gas produced from conventional geologic sources.

2.29 ~~(m)~~ (n) "Power-to-hydrogen" means the use of electricity generated by a carbon-free
2.30 resource to produce hydrogen.

2.31 ~~(n)~~ (o) "Renewable energy" has the meaning given in section 216B.2422, subdivision
2.32 1.

3.1 ~~(p)~~ (p) "Renewable natural gas" means biogas that has been processed to be
 3.2 interchangeable with, and that has a lower lifecycle greenhouse gas intensity than, natural
 3.3 gas produced from conventional geologic sources.

3.4 ~~(q)~~ (q) "Solar thermal" has the meaning given to qualifying solar thermal project in
 3.5 section 216B.2411, subdivision 2, paragraph (d).

3.6 ~~(r)~~ (r) "Strategic electrification" means the installation of electric end-use equipment in
 3.7 an existing building in which natural gas is a primary or back-up fuel source, or in a newly
 3.8 constructed building in which a customer receives natural gas service for one or more
 3.9 end-uses, provided that the electric end-use equipment:

3.10 (1) results in a net reduction in statewide greenhouse gas emissions, as defined in section
 3.11 216H.01, subdivision 2, over the life of the equipment when compared to the most efficient
 3.12 commercially available natural gas alternative; and

3.13 (2) is installed and operated in a manner that improves the load factor of the customer's
 3.14 electric utility.

3.15 Strategic electrification does not include investments that the commissioner determines
 3.16 could reasonably be included in the natural gas utility's conservation improvement program
 3.17 under section 216B.241.

3.18 (s) "Thermal energy" means piped noncombustible fluids used to transfer heat into and
 3.19 out of buildings to reduce any on-site greenhouse gas emissions resulting from all types of
 3.20 heating and cooling processes, including but not limited to comfort heating and cooling,
 3.21 domestic hot water, and refrigeration.

3.22 (t) "Thermal energy network" means all real estate, fixtures, and personal property
 3.23 operated, owned, used, or used for, in connection with, or to facilitate a utility-scale
 3.24 distribution infrastructure project that supplies thermal energy, including but not limited to
 3.25 the project types defined under section 103I.005.

3.26 ~~(u)~~ (u) "Total incremental cost" means the calculation of the following components of
 3.27 a utility's innovation plan approved by the commission under subdivision 2:

3.28 (1) the sum of:

3.29 (i) return of and on capital investments for the production, processing, pipeline
 3.30 interconnection, storage, and distribution of innovative resources;

4.1 (ii) incremental operating costs associated with capital investments in infrastructure for
 4.2 the production, processing, pipeline interconnection, storage, and distribution of innovative
 4.3 resources;

4.4 (iii) incremental costs to procure innovative resources from third parties;

4.5 (iv) incremental costs to develop and administer programs; and

4.6 (v) incremental costs for research and development related to innovative resources;

4.7 (2) less the sum of:

4.8 (i) value received by the utility upon the resale of innovative resources or innovative
 4.9 resource by-products, including any environmental credits included with the resale of
 4.10 renewable gaseous fuels or value received by the utility when innovative resources are used
 4.11 as vehicle fuel;

4.12 (ii) cost savings achieved through avoidance of purchases of natural gas produced from
 4.13 conventional geologic sources, including but not limited to avoided commodity purchases
 4.14 and avoided pipeline costs; and

4.15 (iii) other revenues received by the utility that are directly attributable to the utility's
 4.16 implementation of an innovation plan.

4.17 ~~(s)~~ (v) "Utility" means a public utility, as defined in section 216B.02, subdivision 4, that
 4.18 provides natural gas sales or natural gas transportation services to customers in Minnesota.

4.19 Sec. 3. Minnesota Statutes 2022, section 216B.2427, is amended by adding a subdivision
 4.20 to read:

4.21 Subd. 9a. **Thermal energy networks.** (a) An innovation plan filed under this section
 4.22 by a utility with more than 800,000 customers must include at least five pilot projects to
 4.23 facilitate thermal energy network development, expansion, or modification in Minnesota.

4.24 (b) For each utility with more than 800,000 customers, at least two proposed thermal
 4.25 energy network pilot projects must be in a disadvantaged community.

4.26 Sec. 4. Minnesota Statutes 2022, section 216B.2427, is amended by adding a subdivision
 4.27 to read:

4.28 Subd. 9b. **Commission docket; thermal energy networks.** (a) The commission must
 4.29 initiate a proceeding to support the development of thermal energy networks. As part of the
 4.30 proceeding initiated under this subdivision, the commission must, at a minimum, consider
 4.31 (1) the appropriate ownership, market, and rate structures for pilot thermal energy networks,

5.1 and (2) whether thermal energy services provided by thermal energy providers are in the
5.2 public interest.

5.3 (b) When determining whether a pilot thermal energy network project is in the public
5.4 interest, the commission must consider whether:

5.5 (1) the pilot thermal energy network project develops information useful for the
5.6 commission to adopt administrative rules governing thermal energy networks;

5.7 (2) the pilot thermal energy network project helps Minnesota meet statutory goals and
5.8 requirements, including but not limited to the goals and requirements established under
5.9 sections 216B.1691, subdivisions 2a and 2g; 216B.2401; 216B.2403, subdivision 2;
5.10 216B.241, subdivision 1c; 216B.2427, subdivision 14; and 216H.02, subdivision 1;

5.11 (3) the pilot thermal energy network project improves financial and technical approaches
5.12 to equitable and affordable building decarbonization; and

5.13 (4) the pilot thermal energy network project creates economic and social benefits,
5.14 including but not limited to:

5.15 (i) impacts on public health, especially in environmental justice areas;

5.16 (ii) opportunities to create high-quality jobs paying wages that support families; and

5.17 (iii) reliability and affordability improvements for utility ratepayers, especially
5.18 low-income Minnesotans.

5.19 (c) The commission must initiate the proceeding under this subdivision within six months
5.20 of the date of final enactment.

5.21 Sec. 5. Minnesota Statutes 2022, section 216B.2427, is amended by adding a subdivision
5.22 to read:

5.23 Subd. 9c. **Rulemaking required.** (a) The commission must adopt rules to (1) reflect
5.24 the provisions of subdivisions 9a and 9b, and (2) issue certificates of need for and to site
5.25 thermal energy networks.

5.26 (b) A thermal energy network approved by the commission in an innovation plan or
5.27 utility integrated resource plan is deemed to satisfy the need criteria under section 216B.243.

5.28 Sec. 6. Minnesota Statutes 2023 Supplement, section 216B.243, subdivision 8, is amended
5.29 to read:

5.30 Subd. 8. **Exemptions.** (a) This section does not apply to:

6.1 (1) cogeneration or small power production facilities as defined in the Federal Power
6.2 Act, United States Code, title 16, section 796, paragraph (17), subparagraph (A), and
6.3 paragraph (18), subparagraph (A), and having a combined capacity at a single site of less
6.4 than 80,000 kilowatts; plants or facilities for the production of ethanol or fuel alcohol; or
6.5 any case where the commission has determined after being advised by the attorney general
6.6 that its application has been preempted by federal law;

6.7 (2) a high-voltage transmission line proposed primarily to distribute electricity to serve
6.8 the demand of a single customer at a single location, unless the applicant opts to request
6.9 that the commission determine need under this section or section 216B.2425;

6.10 (3) the upgrade to a higher voltage of an existing transmission line that serves the demand
6.11 of a single customer that primarily uses existing rights-of-way, unless the applicant opts to
6.12 request that the commission determine need under this section or section 216B.2425;

6.13 (4) a high-voltage transmission line of one mile or less required to connect a new or
6.14 upgraded substation to an existing, new, or upgraded high-voltage transmission line;

6.15 (5) conversion of the fuel source of an existing electric generating plant to using natural
6.16 gas;

6.17 (6) the modification of an existing electric generating plant to increase efficiency, as
6.18 long as the capacity of the plant is not increased more than ten percent or more than 100
6.19 megawatts, whichever is greater;

6.20 (7) a large wind energy conversion system, as defined in section 216F.01, subdivision
6.21 2, or a solar energy generating system, as defined in section 216E.01, subdivision 9a, for
6.22 which a site permit application is submitted by an independent power producer under chapter
6.23 216E or 216F; ~~or~~

6.24 (8) a large wind energy conversion system, as defined in section 216F.01, subdivision
6.25 2, or a solar energy generating system that is a large energy facility, as defined in section
6.26 216B.2421, subdivision 2, engaging in a repowering project that:

6.27 (i) will not result in the system exceeding the nameplate capacity under its most recent
6.28 interconnection agreement; or

6.29 (ii) will result in the system exceeding the nameplate capacity under its most recent
6.30 interconnection agreement, provided that the Midcontinent Independent System Operator
6.31 has provided a signed generator interconnection agreement that reflects the expected net
6.32 power increase; or

7.1 (9) a thermal energy network, as defined in section 216B.2427, subdivision 1, that has
7.2 been approved by the commission in an innovation plan or utility integrated resource plan.

7.3 (b) For the purpose of this subdivision, "repowering project" means:

7.4 (1) modifying a large wind energy conversion system or a solar energy generating system
7.5 that is a large energy facility to increase its efficiency without increasing its nameplate
7.6 capacity;

7.7 (2) replacing turbines in a large wind energy conversion system without increasing the
7.8 nameplate capacity of the system; or

7.9 (3) increasing the nameplate capacity of a large wind energy conversion system.

7.10 **Sec. 7. THERMAL ENERGY NETWORK STUDY.**

7.11 (a) The Department of Commerce must conduct or contract for a study to determine the
7.12 optimal capacity of thermal energy networks located in Minnesota by 2030, 2040, and 2050
7.13 in order to meet Minnesota's goals and requirements, including but not limited to the goals
7.14 and requirements established under Minnesota Statutes, sections 216B.1691, subdivisions
7.15 2a and 2g; 216B.2401; 216B.2403, subdivision 2; 216B.241, subdivision 1c; 216B.2427,
7.16 subdivision 14; and 216H.02, subdivision 1.

7.17 (b) When determining optimal capacity amounts, the study must consider:

7.18 (1) technological advances in thermal energy networks that are likely to be made by
7.19 2030, 2040, and 2050, and the impact the advances have on the cost-effectiveness of
7.20 deploying thermal energy networks;

7.21 (2) potential for greenhouse gas emissions reductions;

7.22 (3) impacts on public health, especially in environmental justice areas;

7.23 (4) opportunities to create high-quality jobs paying wages that support families;

7.24 (5) reliability and affordability improvements for utility ratepayers, especially low-income
7.25 Minnesotans;

7.26 (6) how thermal energy network project designs could, to the extent practicable, maximize
7.27 the use of existing energy efficiency programs, weatherization and adaptation programs,
7.28 and federal funding opportunities; and

7.29 (7) thermal energy network deployment in other states.

7.30 (c) No later than December 31, 2024, the Department of Commerce must submit a written
7.31 report that documents the study's findings to the chairs and ranking minority members of

8.1 the senate and house of representatives committees with primary jurisdiction over energy
8.2 policy and finance.

8.3 (d) No later than September 15, 2024, the Department of Commerce must host a meeting
8.4 to solicit input from stakeholders and the public regarding recommendations to implement
8.5 policies and programs designed to promote increased thermal energy network deployment
8.6 to achieve the goals under Minnesota Statutes, section 216B.2427, subdivision 9b.

8.7 (e) No later than December 31, 2024, the Department of Commerce must submit a written
8.8 summary of the recommendations made at the meeting to the chairs and ranking minority
8.9 members of the senate and house of representatives committees with primary jurisdiction
8.10 over energy policy and finance and must post the summary on the Department of Commerce's
8.11 website.