



Minnesota Incentive Programs

Annual Report (as required by MINN. STAT. 41A.19)

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Minnesota Department of Agriculture
Agricultural Marketing and Development Division
Energy and Environment Section
625 Robert Street North
Saint Paul, MN 55155
Phone: 651-201-6163
Paul.Beamer@state.mn.us
www.mda.state.mn.us

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Executive Summary

Production incentive programs to encourage commercial-scale production of advanced biofuels, renewable chemicals, and biomass thermal energy were established by the Minnesota Legislature during the 2015 session (MINN. STAT. 41A.16-41A.19).

During the 2016 session, the Legislature expanded eligible incentive payments to encourage the commercial-scale production of building siding (MINN. STAT. 41A.20).

During the 2021 1st Special Session, the Legislature encouraged the commercial-scale production of oriented strand board (OSB) through production incentive payments (MINN. STAT. 41A.21). In 2023, the Legislature repealed the OSB incentive under Minn. Stat. 41A.21.

Incentive payments are currently available for four types of production: advanced biofuels, renewable chemicals, biomass thermal energy, and building siding. The Legislature established the payment rates, criteria for minimum production levels, and standards for the sourcing of the biomass feedstock. A minimum of 80% of the biomass must be obtained (“sourced”) from Minnesota, with statutory exceptions, and there are standards for harvest of forestry and agricultural cellulosic biomass (i.e., fibrous material, such as wood or plant stalks) intended to protect natural resources and the environment. As of Quarter 1, Fiscal Year (FY) 2024, claims for incentive payments have been made and paid for advanced biofuels, renewable chemicals, and biomass thermal energy. At this time, no claims for incentive payments have been made for siding.

Funding for the four current incentive programs (MINN. STAT. 41A.16, 41A.17, 41A.18, and 41A.20) is from the Minnesota Department of Agriculture’s (MDA) Agricultural Growth, Research, and Innovation (AGRI) program appropriation. Funding was \$4.5 million for FY22 and \$5.75 million each year for FY23, FY24, and FY25. Ongoing funding is \$3 million each fiscal year beginning in FY26.

For each fiscal year, unspent funds are available for an additional year to the entire AGRI program. Expenditures in FY17 were \$29,599. Expenditures in FY18 were \$114,980.

FY19 was the first year that claims were higher than funding, where total claims exceeded the \$1.5 million funding by \$26,890, and the last applicant to enter the program was not reimbursed their full claim.

FY20 and 21 also witnessed claims which exceeded the \$2.5 million in funding. Total claims for FY20 amounted to \$5,069,164, exceeding the total funding available by \$2,569,164. The total claims for FY21 amounted to \$6,302,927, exceeding the total funding available program by \$3,802,927.

Additionally, similar trends were observed for FY22 and FY23, where claims amounted to \$7,833,543 (exceeding funding by \$3,427,295) and \$8,800,487.56 (exceeding funding by \$2,919,457.29), respectively.

Introduction

This report is required by the Minnesota Legislature (MINN. STAT. 41A.19):

By January 15 each year, the commissioner shall report on the incentive programs under sections 41A.16, 41A.17, 41A.18, 41A.20, and 41A.21 to the legislative committees with jurisdiction over environment and agriculture policy and finance. The report shall include information on production and incentive expenditures under the programs.

Background

During the 2015 legislative session, the Legislature adopted statutory language (MINN. STAT. 41A.16-41A.19) and appropriated funds for incentive payments for production of advanced biofuels, renewable chemicals, and biomass thermal energy.

During the 2016 legislative session, the Legislature adopted statutory language (MINN. STAT. 41A.20) and appropriated funds for incentive payments for production of siding. During the 2017 legislative session, the Legislature rescinded the appropriation for this program. During the 2021 1st Special Session, the Legislature included the siding production incentive (MINN. STAT. 41A.20) in the Minnesota Department of Agriculture's (MDA) Agricultural Growth, Research, and Innovation (AGRI) program appropriation that funds incentives for advanced biofuels, renewable chemicals, and biomass thermal energy (MINN. STAT. 41A.16-41A.18).

During the 2021 1st Special Session, the Legislature added a new production incentive program to encourage the commercial-scale production of oriented strand board (OSB) through production incentive payments (MINN. STAT. 41A.21). In 2023, the Legislature repealed Minn. Stat. 41A.21 and eliminated the OSB incentive.

During the 2022 legislative session, the Legislature increased FY23 funding by \$1.25M and increased the annual base appropriation to \$5.75M starting in FY24. During the 2023 legislative session, the Legislature reduced the base appropriation to \$3M in FY26 and thereafter.

An eligible producer may receive payment per unit of production under the program. There are minimum production levels required for eligibility. A maximum amount is set that can be claimed in any one year. A producer may collect payments through the program for ten years. The advanced biofuels, renewable chemicals, biomass thermal, and siding programs are scheduled to end in 2035.

How the Program Works

The four production incentive programs were established to encourage commercial-scale production of advanced biofuels, renewable chemicals, biomass thermal energy, and siding.

Production facilities must:

- Begin producing biofuels, renewable chemicals, biomass thermal energy, or siding before June 30, 2025.
- Meet quarterly minimum production levels.
- Use renewable biomass from agricultural or forestry sources, or the organic portion of solid waste (only for advanced biofuels and renewable chemicals).
- Source 80% of renewable biomass from Minnesota, with statutory exceptions.
- Harvest agricultural and forestry cellulosic biomass (i.e., fibrous material, such as wood or plant stalks) in ways that do not harm natural resources or the environment.

Production facilities may receive payments for up to 10 years. If funding for the program should be depleted in any quarter, the eligible claims are made on a pro-rata basis to those applicants.

The following sections describe the incentive payment programs for the four types of production: advanced biofuels, renewable chemicals, biomass thermal energy, and siding.

Advanced Biofuels

Generally, advanced biofuel must demonstrate that its lifecycle greenhouse gas emissions are at least 50% less than baseline lifecycle greenhouse gas emissions of the fuel the advanced biofuel replaces. Biobutanol from cornstarch may be reimbursed through the incentive program without demonstrating the 50% greenhouse gas emission reduction.

Eligibility

Production must not have exceeded the equivalent of 23,750 MMBtu (millions of British Thermal Units or BTUs, a standard unit of measurement of heat energy) per quarter before July 1, 2015. Facilities must produce at least the equivalent of 1,500 MMBtu per quarter to enter the program and for each quarter for which a reimbursement claim is made. Facilities entering the program after April 1, 2023, must produce at least 23,750 MMBtus quarterly.

Payment amounts and limits

Producers of advanced biofuels are reimbursed at a rate of:

- \$2.1053 per the equivalent of MMBtu for production from cellulosic biomass, and
- \$1.053 per the equivalent of MMBtu for production from sugar, starch, oil, or animal fat.

There is a maximum program reimbursement per year for each eligible producer of 2.85 million MMBtu, and a total maximum program reimbursement per year for all eligible facilities of 17.1 million MMBtu. See the tables in the [maximum reimbursements](#) section for the corresponding dollar amounts.

Table 1 shows BTUs converted to gallons for several examples of advanced biofuels.

Table 1. Payments per gallon for several examples of advanced biofuels

Fuel	Feedstock	BTU/gallon	Payment/gallon
Butanol	Corn starch	99,837	\$0.11
Ethanol	Sugar beets	76,330	\$0.08
Ethanol	Corn kernel fiber	76,330	\$0.16

Renewable Chemicals

Renewable chemicals produced from agricultural biomass, forestry materials, or the organic portion of solid waste qualify for incentive payments.

Eligibility

Production must not have exceeded 250,000 pounds per quarter before January 1, 2015. Renewable chemicals produced through processes that were fully commercial before January 1, 2000, are not eligible. Facilities must produce at least 250,000 pounds per quarter to enter the program and for each quarter for which a reimbursement claim is made. Facilities entering the program after April 1, 2023, must produce at least 750,000 pounds of renewable chemicals per quarter.

Payment amounts and limits

Producers of renewable chemicals are reimbursed at a rate of:

- \$0.06 per pound made from cellulosic biomass, and
- \$0.03 per pound made from cellulosic sugar, oil, animal fat, or starch.

Production using agricultural cellulosic feedstock of perennial or cover crop biomass is eligible for a 20% bonus payment for each pound of chemicals produced.

There is a maximum program reimbursement per year for each eligible producer of 99,999,999 pounds, and a total maximum program reimbursement per year for all eligible facilities of 599,999,999 pounds. See the tables in the maximum reimbursements section for the corresponding dollar amounts.

Biomass Thermal Energy

Thermal energy produced from biomass combustion, gasification, or aerobic digestion qualifies for incentive payments.

Eligibility

Production of biomass thermal energy that was in place before July 1, 2015, is not eligible. Facilities must produce at least 250 MMBtu per quarter to enter the program and for each quarter for which a reimbursement claim is made.

Payment amount and limits

Producers of biomass thermal energy are reimbursed at a rate of \$5.00 per MMBtu of production. Facilities may blend cellulosic feedstock with other fuel, but only the percentage attributable to cellulosic material is eligible to receive payments. Production using agricultural cellulosic feedstock of perennial or cover crop biomass is eligible for a 20% bonus payment for each MMBtu of biomass thermal energy produced.

There is a maximum program reimbursement per year for each eligible producer of 30,000 MMBtu, and a total maximum program reimbursement per year for all eligible facilities of 150,000 MMBtu. See the tables in the maximum reimbursements section for the corresponding dollar amounts.

Siding Production

Siding production from forest resources (raw wood logs and material primarily made up of cellulose, hemicellulose, or lignin, or a combination of these ingredients) qualifies for incentive program payments.

Eligibility

Production of siding that was in place before July 1, 2019, is not eligible. Facilities must produce at least 200,000,000 siding square feet on a 3/8-inch nominal basis of siding per year to enter the program and for each year for which a reimbursement claim is made.

Payment amount and limits

Producers of siding are reimbursed at a rate of \$7.50 per 1,000 siding square feet on a 3/8-inch nominal basis of siding production at a specific location.

There is a maximum program reimbursement per year for each eligible producer of 400,000,000 siding square feet on a 3/8-inch nominal basis, and a total maximum program reimbursement per year for all eligible facilities of 400,000,000 siding square feet on a 3/8-inch nominal basis. See the tables in the maximum reimbursements section for the corresponding dollar amounts.

Cellulosic Biomass Sourcing

The incentive program specifies standards for the sourcing of the cellulosic biomass feedstock, meant to ensure that the harvest of cellulosic biomass for advanced biofuel, renewable chemical, or biomass thermal production

does not harm natural resources or the environment. Separate standards exist for cellulosic biomass from forestry sources and from agricultural sources.

The standards for sourcing cellulosic biomass from forestry rely on certifications from several forestry-certifying organizations, or state biomass harvesting guidelines.

To receive incentive payments for production that uses agricultural cellulosic biomass as feedstock, an “agricultural cellulosic biomass sourcing plan” is required to be submitted to the MDA. The plan contains a detailed explanation of how the agricultural cellulosic biomass is to be produced in a way that will be protective of natural resources and the environment (soils, water quality, wildlife, etc.). A more stringent plan is required for advanced biofuels cellulosic biomass harvest than for renewable chemicals or biomass thermal.

Maximum Reimbursements

Maximum reimbursements that could be received through the program are listed in Table 2 (all collective producers per year) and Table 3 (individual producer per year). It should be noted that a 20% bonus payment is also available for renewable chemicals and biomass thermal energy producers utilizing agricultural perennials and/or cover crops as feedstock.

Table 2. Maximum program reimbursements per year, for each production type (MINN. STAT. 41A.16-41A.20)

Production type	Maximum per production type	Unit	Low rate	High rate	Compensation at low rate	Compensation at high rate
Advanced biofuel	17,100,000	MMBtu	\$1.053	\$2.1053	\$18,006,300	\$36,000,630
Renewable chemical	599,999,999	pounds	\$0.03	\$0.06	\$18,000,000	\$36,000,000
Biomass thermal	150,000	MMBtu	\$5.00	\$5.00	\$750,000	\$750,000
Siding production	400,000,000	square feet	\$7.50	\$7.50	\$3,000,000	\$3,000,000

Table 3. Maximum reimbursements per producer per year (MINN. STAT. 41A.16-41A.20)

Production type	Maximum per facility	Unit	Low rate	High rate	Compensation at low rate	Compensation at high rate
Advanced biofuel	2,850,000	MMBtu	\$1.053	\$2.1053	\$3,001,050	\$6,000,105
Renewable chemical	99,999,999	pounds	\$0.03	\$0.06	\$3,000,000	\$6,000,000
Biomass thermal	30,000	MMBtu	\$5.00	\$5.00	\$150,000	\$150,000
Siding production	400,000,000	square feet	\$7.50	\$7.50	\$3,000,000	\$3,000,000

Funding

Funding for incentive payments (MINN. STAT 41A.16, 41A.17, 41A.18, and 41A.20) is from the MDA’s AGRI program appropriation. Annual appropriation amounts are shown in Table 4.

Table 4. Incentive programs appropriations

Biennium	Year 1	Year 2
2016-2017	\$500,000	\$1,500,000
2018-2019	\$1,500,000	\$1,500,000
2020-2021	\$2,500,000	\$2,500,000
2022-2023	\$4,500,000	\$5,750,000
2024-2025	\$5,750,000	\$5,750,000
2026-2027	\$3,000,000	\$3,000,000

For all biennia, the appropriation language provides that unspent funds are available for an additional year (for example, the FY21 appropriation is available until June 30, 2022), and that the balance remaining after the end of the fiscal year (e.g., June 30, 2021, in the case of FY21) is available to the entire AGRI program in the following fiscal year (e.g., July 1, 2021, to June 30, 2022, in the case of the FY21 appropriation). However, in FY17, the remaining balance of \$1.47 million was cancelled.

For all biennia, the appropriation language provides that the balance of unspent funds at the end of a fiscal year (e.g., June 30, 2023, in the case of FY23) is available to the entire AGRI program in the following fiscal year (e.g., July 1, 2023, to June 30, 2024, in the case of the FY23 appropriation). However, in FY17, the remaining balance of \$1.47 million was cancelled.

In FY16, \$3 million was separately appropriated for the siding production incentive (MINN. STAT. 41A.20). In FY17, the appropriation was rescinded. In FY21, the Legislature combined the siding production incentive with the AGRI incentive programs appropriation (MINN. STAT. 41A 16-20).

Production and Incentive Expenditures

FY19 was the first year that claims were higher than funding, where total claims exceeded the \$1.5 million funding by \$26,890, and the last applicant to enter the program was not reimbursed their full claim.

FY20 and 21 also witnessed claims which exceeded the \$2.5 million in funding. Total claims for FY20 amounted to \$5,069,164, exceeding the total funding available by \$2,569,164 and the total claims for FY21 amounted to \$6,302,927, exceeding the total funding available program by \$3,802,927.

Additionally, similar trends were observed for FY22 and FY23, where claims amounted to \$7,833,543 (exceeding funding by \$3,427,295) and \$8,800,487.56 (exceeding funding by \$2,919,457.29), respectively. To date, there have been no reimbursement claims for the siding production incentive (MINN. STAT. 41A.20).

During fiscal years where claims exceed funding (FY20 through FY23), requests have exceeded available funding by an average of \$3,189,030.00.

During the first quarter of FY24, \$1,853,818 in claims were reimbursed of the available \$5,750,000 (32% of total annual funding). In FY24, should the funding be depleted, the remaining funds will be distributed on a pro-rata basis in accordance with the statutory language. There have now been claims in eight fiscal years of the incentive programs. Details of reimbursements made to date are summarized in Table 5 by fiscal year and production type.

Table 5. Program reimbursement by production type for FY2017-FY2023 and through Quarter 1 of FY2024

Fiscal year (FY)	Production type	Amount claimed (unit)	Units	Amount claimed (\$)	Amount paid (\$)	Amount not paid (\$)
FY17	Advanced biofuel	0	MMBtu	\$0.00	\$0.00	\$0.00
FY17	Renewable chemical	986,636	Pounds	\$29,599.00	\$29,599.00	\$0.00
FY17	Biomass thermal	0	MMBtu	\$0.00	\$0.00	\$0.00
Total FY17	All	--	--	\$29,599.00	\$29,599.00	\$0.00
FY18	Advanced biofuel	0	MMBtu	\$0.00	\$0.00	\$0.00
FY18	Renewable chemical	3,234,517	Pounds	\$97,036.00	\$97,036.00	\$0.00
FY18	Biomass thermal	3,589	MMBtu	\$17,945.00	\$17,945.00	\$0.00
Total FY18	All	--	--	\$114,981.00	\$114,981.00	\$0.00
FY19	Advanced biofuel	0	MMBtu	\$0.00	\$0.00	\$0.00
FY19	Renewable chemical	23,150,019	Pounds	\$1,291,385.00	\$1,264,495.00	\$26,890.00
FY19	Biomass thermal	47,100	MMBtu	\$235,505.00	\$235,505.00	\$0.00
Total FY19	All	--	--	\$1,526,890.00	\$1,500,000.00	\$26,890.00
FY20	Advanced biofuel	129,519	MMBtu	\$1,254,058.00	\$435,706.00	\$818,352.00
FY20	Renewable chemical	20,653,952	Pounds	\$3,417,802.00	\$1,739,672.00	\$1,678,130.00
FY20	Biomass thermal	65,815	MMBtu	\$397,304.00	\$324,623.00	\$72,682.00
Total FY20	All	--	--	\$5,069,164.00	\$2,500,000.00	\$2,569,164.00
FY21	Advanced biofuel	851,192	MMBtu	\$1,792,015.00	\$761,052.00	\$1,030,963.00
FY21	Renewable chemical	69,424,661	Pounds	\$4,165,480.00	\$1,438,001.00	\$2,727,478.00
FY21	Biomass thermal	69,086	MMBtu	\$345,431.00	\$300,946.00	\$44,485.00
Total FY21	All	--	--	\$6,302,926.00	\$2,499,999.00	\$3,802,926.00
FY22	Advanced biofuel	1,320,201	MMBtu	\$2,779,419.74	\$1,458,565.25	\$1,320,854.49
FY22	Renewable chemical	69,684,633	Pounds	\$4,181,078.00	\$2,550,498.00	\$1,630,580.00
FY22	Biomass thermal	174,609	MMBtu	\$873,045.77	\$397,185.00	\$475,860.77
Total FY22	All	--	--	\$7,833,543.51	\$4,406,248.25	\$3,427,295.26
FY23	Advanced biofuel	2,002,722	MMBtu	\$4,216,330.48	\$2,817,487.60	\$1,398,842.88
FY23	Renewable chemical	66,188,635	Pounds	\$3,971,318.10	\$2,682,978.64	\$1,288,339.46
FY23	Biomass thermal	122,568	MMBtu	\$612,838.98	\$380,564.03	\$232,274.95
Total FY23	All	--	--	\$8,800,487.56	\$5,881,030.27	\$2,919,457.29
FY24 Q1	Advanced biofuel	499,655	MMBtu	\$1,051,924.43	\$1,051,924.43	\$0.00
FY24 Q1	Renewable chemical	9,532,100	Pounds	\$571,926.00	\$571,926.00	\$0.00
FY24 Q1	Biomass thermal	45,994	MMBtu	\$229,967.98	\$229,967.98	\$0.00
Total FY24 Q1	All	--	--	\$1,853,818.41	\$1,853,818.41	\$0.00
Grand Total	All	--	--	\$31,531,409.48	\$18,785,675.93	\$12,745,732.55

Production Projections for Fiscal Years 2024 and 2025

The MDA has contacted likely applicants for incentive payment reimbursements expected in the coming fiscal years. The breakdowns of estimated production volumes and reimbursement amounts are listed in Table 6.

Table 6. Projections for claims in FY24-25

Fiscal year	Production type	Estimated production amounts	Approximate claims
24	Advanced biofuel	2,000,000 MMBtu	\$4,210,600.00
24	Renewable chemical	38,128,400 Pounds	\$2,287,704.00
24	Biomass thermal	122,568 MMBtu	\$612,840.00
24	Projected total	--	\$7,111,144.00
25	Advanced biofuel	2,000,000 MMBtu	\$4,210,600.00
25	Renewable chemical	38,128,400 Pounds	\$2,287,704.00
25	Biomass thermal	122,568 MMBtu	\$612,840.00
25	Projected total	--	\$7,111,144.00
24 & 25	Projected total	--	\$14,222,288.00

To date, there has been no discussion with producers interested in making claims in the siding production incentive (MINN. STAT. 41A.20).