

2017 Agriculture Incentives

Specifications and Application for those operating on a residential rate



Michigan’s farms are the backbone of one of the most important sectors of our state’s economy – and DTE Energy is reaching out to Michigan farmers and other agriculture customers to help them save energy and money in their operations.

Through its Energy Efficiency Program for Business, DTE has put together energy efficiency measures that are among the most common found on Michigan agricultural and dairy farms and in commercial greenhouses.

In this Application, Michigan farmers **on a residential rate** can apply for cash incentives that will help pay for equipment upgrades in areas of audits, irrigation systems, refrigeration, dairy equipment, grain dryers, greenhouse equipment and fans and pumps.

We’ve made the application process as easy as possible for those who get up early and stay up late feeding our nation.

Inside, you’ll find detailed descriptions of each energy-saving measure and then worksheets that will automatically calculate the incentives you can receive for installing those measures.

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Application overview

DTE Energy is offering energy efficiency incentives to agricultural customers interested in upgrading to more energy-efficient equipment as part of the DTE Energy Efficiency Program for Business.

Agriculture customers – including those on both residential and commercial rate codes – have access to a special list of energy efficiency measures designed specifically to meet the needs of the farming, dairy and greenhouse communities. These incentives are available only to commercial rate and residential rate customers whose primary source of income is from agricultural operations and activities. Those on a residential rate must use this Application; commercial rate customers are encouraged to use the main Program Application.

Incentives available through this program are limited by project and customer for each Program Year (see table at right) – and by customer type: only DTE electric customers may apply for electric incentives; only DTE gas customers may apply for gas incentives. Those customers who receive both electric and gas service from DTE may apply for all measures. **Electric measures are identified by a green “E” before the measure; gas measures are identified by a blue “G” before the measure.**

2017 Program Year Incentive Limits

	Electricity	Gas
Project	\$250,000	\$200,000
Customer	\$1,000,000	\$300,000

Who can Apply?

You must be a DTE Energy electric and/or natural gas customer in good standing. Your project must be installed at a facility served by DTE Energy.

- A customer is defined as the owner of the farming operations, with a unique taxpayer ID number, that is responsible for the DTE Energy utility bill for one or more facilities.
- A project is defined as a unique energy efficiency measure or set of measures implemented at a facility in a single time span.
- A facility is defined as a Michigan farm and its complex of buildings on a single contiguous property or individual single family dwellings. Each may have its own or be on a single meter that receives a residential rate. A single customer must be responsible for paying the DTE Energy utility (electric and/or natural gas) bill for this/these meter(s).

Installed equipment must meet the specifications explained in this Application.

About the measures

Become familiar with qualifying energy-saving measures offered in this Application. Additional details are available in our Policies and Procedures Manual, available on our website. Equipment installed must meet the specifications detailed in this Application. If you need assistance with technical information or the feasibility of installing certain measures, contact our Program Team or one of our Designated Trade Allies, a searchable directory is available online. You are not required to use a Designated Trade Ally to complete your project.



Reservation of Funds

Use this Application to reserve funding for your project. To make things easy, all you need to do is complete all the forms on an electronic version of this Application and click the “submit” button on the Page 15. See the complete submission instructions on Page 15. Reservations are strongly encouraged – and in some instances required (see the specifications on Page 7-11, 14) – so that we can set aside funds for your project.

Installation

Complete your project within 90 days of your Reservation Letter or by Nov. 30, 2017, whichever comes first.

Inspections

DTE Energy reserves the right to inspect all projects to verify compliance with Program rules and verify the accuracy of project documentation. This may include pre-installation and/or post-installation inspections. Detailed lighting layout descriptions, metering, data collection, interviews and other information may be requested as appropriate.

Final Application (project completion)

Just like with the Reservation Application, you can also electronically submit your Final Application when your project is finished, or you can email, mail or fax it. Don't forget to attach all required documentation (including dated, itemized invoices and manufacturer specification sheets). The Final Application must be signed by the DTE Energy Account Holder and submitted within 60 days of project completion. The Final Application must be submitted within 60 days of completion of your project or by Nov. 30, 2017, whichever comes first. Applications submitted after that date will be canceled. See Page 15 for complete submission instructions.

Questions?

If you have any questions, you can call us toll-free at 866.796.0512 (press Option 3 when prompted) or email us at: saveenergy@dteenergy.com.

We're here to help you.



Application Checklist and Project Information

This form **MUST** be included with any Reservation and/or Final Application.

Application Number (if known) _____

Is this a revised Application? yes no

Electronically submit, mail, fax or email completed forms and required documentation with itemized invoices to:

DTE Energy Efficiency Program For Business

Email: saveenergy@dteenergy.com

Fax: 313.664.1950

Phone: 866.796.0512

Web: dteenergy.com/savenow

Mail: P.O. Box 11289

Detroit MI 48211

Reservation Application

Fill out this side when reserving incentives

Required Information

- Customer Information 4
- Contractor Information 5
- W9 Tax Information Form (customer) 4

Incentives Worksheets

- Worksheets 12
 - Farm Energy Audit
 - Irrigation Equipment
 - Dairy Equipment
 - Dairy Refrigeration Tune-up
- Worksheets 13
 - Fans
 - VFDs for Fans and Pumps
 - Grain Dryers
 - Greenhouses
- Custom Lighting Worksheet 14

Reservation Application Date _____

Expected Completion Date** _____

** Project funds will only be reserved to the date specified on the Reservation Letter or Nov. 30, 2017, whichever comes first.

Final Application

Fill out this side when project is completed

Required Information

- Customer Information 4
- Contractor Information 5
- W9 Tax Information (payee) 5
 - Third-party Authorization (if applicable) 5
- Signed Final Application Agreement 6
- Manufacturer's Specifications
- Itemized Invoices

Incentives Worksheets

- Worksheets 12
 - Farm Energy Audit
 - Irrigation Equipment
 - Dairy Equipment
 - Dairy Refrigeration Tune-up
- Worksheets 13
 - Fans
 - VFDs for Fans and Pumps
 - Grain Dryers
 - Greenhouses
- Custom Lighting Worksheet 14

Final Application Date _____

Actual Completion Date*** _____

*** Application must be submitted within 60 days of completion date or by Nov. 30, 2017, whichever comes first.

This interactive Application will automatically calculate all incentive totals on each worksheet – which you can then submit electronically to our office. You also can download this Application, print it out and complete it manually. You then can either mail or fax it to our office.

You must complete all applicable pages before sending or submitting this Application to our office.

[Go To Page 15 For Submission Instructions](#)



Incentive Application

Important: Please read the terms and conditions on the Final Application Agreement before signing and submitting this Application. You must complete ALL information requested below and provide the required additional documentation to avoid delays in reservation or incentive processing.

Who should we call with questions on the Application? Customer Contractor

How did you learn about this Incentive Program? Mailing Meeting Email Website Other _____
 Bill Insert Trade Ally/Contractor Print/TV Advertising Account Manager Michigan Saves

This Program is not available to DTE Energy business customers in multifamily buildings consisting of five or more units per building. These customers may be eligible to participate in the Multifamily Program for energy saving upgrades to both tenant and common areas.

Customer Information

Name of Applicant's Business _____ Project or Building Name (If Applicable) _____

Natural Gas Provider DTE Energy Consumers Energy Other _____

Electricity Provider DTE Energy Consumers Energy Other _____

DTE Energy Gas Account Number (at Project location)

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

DTE Energy Electric Account Number (at Project location)

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Name as it appears on DTE Energy bill _____

Name of Contact Person _____ Title of Contact Person _____

Contact Phone # _____ Contact Fax # _____

Contact Email Address _____

Mailing Address _____ City _____ State _____ ZIP _____

Installation Address _____ City _____ State _____ ZIP _____

Customer Tax Information (as entered on W9)

Tax Status: Corporation (Inc., PC, Etc.) Exempt Partnership LLC Individual Government Agency

Tax ID Number: Depending on tax status please provide EITHER your EIN/Federal Tax ID or Social Security Number below:

EIN/Federal Tax ID

		-																	
--	--	---	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

OR

Social Security Number

		-		-															
--	--	---	--	---	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--



Incentive Application (continued)

Primary Contractor/Distributor Information

Name of Company _____ Trade Ally# _____

Name of Contact Person _____ Title of Contact Person _____

Contact Phone # _____ Contact Fax # _____

Contact Email Address _____

Mailing Address _____ City _____ State _____ ZIP _____

Optional Third Party Payment Authorization

IMPORTANT NOTES:

1. Complete the section below ONLY if the incentive payment is to be paid to a SINGLE entity other than the DTE Account Holder.
2. Do NOT use the section below, if payments are to be made to MORE than a single third-party.
3. For payments being made to **two or more third parties**, please check this box , request a copy of the Third Party Addendum, have it signed by the DTE Account Holder and attach it to this Final Application.

I am authorizing the payment of the incentive to the third party named below and I understand that I will not be receiving the incentive payment. I also understand that my release of the payment to a third party does not exempt me from the Program requirements outlined in the Measure Specifications, Final Application Agreement and Policies and Procedures Manual.

Authorized by: _____

DTE Account Holder Signature _____ Date _____

Check should be made payable to:

Payee: Company/Individual Name _____

Mailing Address _____

City _____ State _____ ZIP _____

Contact Phone Number _____

Payee Tax Information (as entered on W9)

Tax Status: Corporation (Inc., PC, Etc.) Exempt Partnership LLC Individual Government Agency

Tax ID Number: Depending on tax status please provide EITHER your EIN/Federal Tax ID or Social Security Number below:

EIN/Federal Tax ID

			-											
--	--	--	---	--	--	--	--	--	--	--	--	--	--	--

OR

Social Security Number

				-			-							
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Final Application Agreement

The energy optimization measures listed within are being/have been installed in a qualifying time frame, at a qualifying facility and are not for resale. Additional Program terms and conditions can be found in the Policy and Procedures Manual available at dteenergy.com/savenow.

I understand that in the event this Application received a reservation, that reservation is not a guarantee of payment. Incentive payment will be based upon the Final Application meeting the Program terms and conditions, and the availability of funds.

Selected terms and conditions include:

1. Final Applications and all required documentation must be received within 60 days of project completion or by Nov. 30, 2017, whichever comes first. Incomplete Applications, missing documents or Applications submitted after that date will result in the project being cancelled.
2. The Program has a limited budget. Applications will be processed until allocated funds are reserved or spent.
3. All equipment must be purchased and installed prior to submitting the Final Application.
4. Applicant agrees to inspection and measurement activities by DTE Energy or its representative of both project payment and equipment installation for up to five years from the date of equipment installation.
5. Incentives may be taxable and the Applicant is solely responsible for the payment of any resulting taxes. Incentives will be reported to the IRS, unless the Applicant is exempt.
6. The Applicant may be required to refund some or all of the incentives if the measures do not remain (or were not) installed for a period of five (5) years or the end of the product life, whichever is less.
7. Materials removed, including lamps and PCB ballasts, must be permanently taken out of service and disposed of in accordance with federal and state laws or regulation and local codes and ordinances. The Applicant is responsible for being aware of any applicable codes or ordinances. Information about hazardous waste disposal can be found at www.epa.gov/wastes.
8. DTE Energy has no obligations regarding and does not endorse or guarantee any claims, promises, work or equipment made, performed or furnished by any contractors or equipment vendors that sell or install any energy efficiency measures.
9. Payment of incentives under the Program and/or evaluation of Applications for incentives shall not deem DTE Energy or any of its affiliates, employees or agents ("DTE Energy Parties") to be responsible for any work completed in connection herewith. Applicant fully releases DTE Energy Parties from any and all claims it may have against DTE Energy Parties in connection with this Application, the incentives or the work performed in connection with them. In addition, Applicant agrees to defend, indemnify and hold DTE Energy Parties harmless from and against any and all claims, losses, demands or lawsuits by any third parties arising in connection with this Application, the payment or nonpayment of incentives or any work performed in connection with them.
10. DTE Energy reserves the right to associate with your business and participation in the incentive Program for promotion and advertising purposes. See the Policies and Procedures Manual for more on promotional co-branding.
11. Applicant acknowledges that Federal Energy Regulatory Commission (FERC) Order issued on June 1, 2012, at Docket No. ER11-4081-000 ("FERC Order") approves of the inclusion of energy efficiency resources as planning resources in a utility's resource adequacy plan (all italicized terms as defined in the FERC Order). Accordingly, Applicant and DTE Energy agree that all such rights afforded with respect to energy efficiency resources, including but not limited to the right to identify them as a planning resource so as to include them in a resource adequacy plan, shall inure exclusively and fully to DTE Energy. Applicant agrees that it will not claim ownership in such energy efficiency resources for purposes of identifying them as a planning resource in accord with the FERC Order or include them in a resource adequacy plan.

I have read and understand the measure specifications and Program Guidelines set forth in the Application and the Program Policy and Procedures Manual and agree to abide by those requirements. Furthermore, I concur that I must meet all eligibility criteria in order to be paid under this Program and not receive incentives from any other utility for the same project.

I certify that the information on this Application is true and accurate. I acknowledge and understand that it is necessary for DTE Energy to store, use and share the information contained in this Application, as well as information collected in connection with this project, including but not limited to my business name, address, account number and energy consumption data ("Customer Data") for various purposes.

Therefore, I hereby authorize DTE Energy to collect, store and use the Customer Data for internal purposes and to present me with other energy saving opportunities. I further authorize DTE Energy to share the Customer Data with third party vendors/contractors who are doing work on DTE Energy's behalf.

Final Agreement Information and Account Holder Signature

DTE Project Number _____

Total Project Cost _____

Actual Completion Date _____

DTE Account Holder Name (print) _____

DTE Account Holder Title _____

DTE Account Holder Signature _____

Date _____

For a Final Application, sign and submit only after all equipment has been installed. A customer signature is required for payment. Signed Applications received by fax or email will be treated the same as original Applications received by mail. See Page 15 for submission instructions.

Measure Category	Incentive Amount
Farm Energy Audit	
Irrigation Equipment	
Dairy Equipment	
Dairy Refrigeration Tune-up	
Fans	
VFDs for Fans and Pumps	
Grain Dryers	
Greenhouses	
Lighting	
Total Incentives Requested	

NOTE: The above figures will self-populate in the electronic version.

Specifications

Farm Energy Audit

	Description	Unit
EG	Farm Energy Audit.	Farm

Farm Energy Audit (Reservation required)

- Incentives are available for an audit of a facility that operates primarily as an agricultural business.
- Audit must be a tier II energy audit as defined by the US Department of Agriculture.
- Incentive is per farm.

Irrigation Equipment

	Description	Unit
E	VFD on Irrigation Systems Operating \geq 500 hrs/year.	HP
E	Sprinkler to Drip Irrigation	Acre
E	Low-Pressure Sprinkler Nozzle	Nozzle
E	Low-Energy Livestock Waterer	Unit

Variable Frequency Drives on Irrigation Systems (Reservation required)

- Incentives are available for the installation of variable frequency drives on existing agricultural irrigation systems.
- Redundant or back-up pumps do not qualify.
- The new pumps must operate a minimum of 500 hours per year to qualify.
- Qualifying existing irrigations systems must either include:
 - a) several center pivots served by one well, or
 - b) have a corner arm center pivot where the water flow rate increases when the corner arms swing out towards the corners of the fields.
- Other proposed VFD irrigation systems applications will be reviewed on a case-by-case basis.
- This incentive cannot be combined with the Sprinkler Drip Irrigation incentive or Low Pressure Sprinkler nozzles incentive.
- Incentive is per HP.

Sprinkler to Drip Irrigation Systems (Reservation required)

- Incentives are available for the conversion of an existing high-pressure, impact-type sprinkler irrigation system (50-psi or greater at the sprinkler head) to a low-pressure sprinkler micro-system (35-psi or less at the sprinkler head).
- The existing sprinklers must be removed.
- Drip tape systems are not applicable.
- The incentive application must include an assessor's parcel map or other documentation to verify acreage.
- Incentive is per acre served by the system.

Low Pressure Sprinkler Nozzles (Reservation required)

- Incentives are available for the conversion of an existing one-to-one high-pressure (50 psi or greater at the sprinkler head) sprinkler system nozzle to a low-pressure sprinkler nozzle (35-psi or less at the sprinkler head).
- Both permanent (solid set) and portable (hand-move) sprinkler system nozzles are eligible for incentives.
- Incentive is per nozzle.

Low Energy Livestock Waterer

- Incentives are available for the replacement of an existing open waterer with sinking or floating water heater with new low-energy equipment.
- The new waterer must have a minimum of 2-inches of insulation and must be electrically heated and thermally insulated.
- The new waterer must serve same herd size as waterer being replaced.
- A thermostat is required on units with heating elements that are >250 watts.
- Incentive is per unit.





Specifications

Dairy Equipment

	Description	Unit
E	Scroll Compressor for Dairy Refrigeration	lb milk/day
E	Variable Frequency Controller for Vacuum Pump	HP
E	Variable Frequency Drive on Milk Pump	w/existing pre-cooler
		w/new pre-cooler

Scroll Compressor for Dairy Refrigeration

- Incentives are available for the replacement of reciprocating compressors only with scroll compressors.
- The offer is based on one milk pump system per farm; if multiple milk systems exist, the incentive will be based on a ratio of milk processed through each system.
- Redundant air compressor systems do not qualify.
- Incentive is per lb milk/day.

Variable Frequency Controller for Vacuum Pump (Reservation required)

- Incentives are available for the installation of variable frequency controllers for vacuum pumps that result in a reduction in horsepower.
- Existing pump must be blower-type pump.
- Incentive is per HP reduced.

VFD on Milk Pump w/new or existing pre-cooler (Reservation required)

- Incentives are available for the installation of variable frequency drives on milk pumps either with a new or existing pre-cooler.
- The installation of a VFD must accompany a plate-type pre-cooler; the pre-cooler may be installed at the same time as the VFD milk pump.
- To qualify, the minimum daily milk production must be $\geq 5,000$ lbs/day.
- The incentive cannot be combined with any other VFD incentive.
- The offer is based on one milk pump system per farm; if multiple milk systems exist, the incentive will be based on a ratio of milk processed through each system.
- Redundant pumps or systems do not qualify.
- Incentive is per lb milk/day.

Dairy Refrigeration Tune-Up

	Description	Unit
E	Dairy Refrigeration Tune-up	lb milk/day

Dairy Refrigeration Tune-Up

- Incentives are available for the tune-up of existing commercial-grade, on-farm dairy refrigeration equipment.
- A Dairy Refrigeration Tune-Up Checklist/Worksheet must be completed by the service provider for each unit (see Page 11 for more information).
- This incentive is available only once per 24-month period with the intention of reducing electricity consumption.
- Incentive is per lb milk/day.



Specifications

Fans

	Description	Unit
E	Circulation, Exhaust, Ventilation Fans	Fan
E	High-Volume, Low-Speed Fans	Fan
E	Fan Thermostat Control	HP

Circulation, Exhaust or Ventilation Fans

- Incentives are available for the replacement of existing circulation, exhaust and/or ventilation fans.
- The replacement fans must be new and must meet the specifications listed in Table 1 below.
- Incentive is per fan.

Table 1: Minimum Efficiency for Circulation, Exhaust, Ventilation Fans

Diameter	Minimum Efficiency	Minimum Efficiency
24"-35"	14.0 CFM @ 0.10" WG SP	12.5 lb/kW
36"-47"	17.1 CFM @ 0.10" WG SP	18.25 lb/kW
48"-71"	20.3 CFM @ 0.10" WG SP	23 lb/kW

High-Volume Low-Speed Fans

- Incentives are available for the installation of high-volume low-speed fans that replace high-speed box fans that traditionally are used in the ventilation of livestock facilities.
- To qualify, the minimum fan diameter must be at least 16 feet.
- Incentive is per fan.

Fan Thermostat Controller (Reservation required)

- Incentives are available for the installation of a new fan thermostat controller for existing circulation, ventilation or exhaust fans that operate continuously from May through October.
- The replacement of existing thermostat fan controller does not qualify.
- The new controller must have thermostat functions that disable the fans when the outside air temperature drops below a predetermined set-point temperature, typically 70°F.
- Incentive is per HP of controlled fans.

VFDs for Fans and Pumps

	Description	Unit
E	VFD on fans	operating 750-2,000 hours/year HP
		operating more than 2,000 hours/year HP
E	VFD on pumps	operating 750-2,000 hours/year HP
		operating more than 2,000 hours/year HP

VFDs for Fans and Pumps (Reservation required)

- Variable frequency drives (VFD's) installed on existing or new applications of agricultural fans and pumps are eligible for this incentive.
- Applicant is to provide a summary statement explaining:
 - a) what the motor is used for;
 - b) motor's annual run time;
 - c) how the motor is currently controlled; and
 - d) proposed motor VFD control method.
- The installation of a VFD must accompany the permanent removal or disabling of any throttling devices such as inlet vanes, bypass dampers, bypass valves, or throttling valves.
- The VFD speed must be automatically controlled by humidity, temperature, differential pressure, flow, or other variable signal.
- VFD's installed on irrigations or HVAC systems do not qualify for this incentive, but may qualify for either a different Prescriptive measure or a Custom measure in the Existing Retrofit application.
- Motors greater than 50 HP do not qualify for this incentive, but may qualify for a Custom measure in the Existing Retrofit application.
- Redundant or back up units do not qualify.
- The replacement of existing VFD's does not qualify for this incentive.
- The motor must operate more than 750 hours/year.
- Incentive is per HP of controlled fans and/or pumps.





Specifications

Grain Dryers

	Description	Unit
G	Grain Dryers	Bushel/year
E	Grain Storage Temp/Moisture Management Controller	HP

High Efficiency Grain Dryers (Reservation required)

- Existing grain dryer must be at least 20 years old and not utilize heat recovery.
- New dryer must be natural gas heated, permanently installed, and have a minimum grain dryer efficiency of 1,590 Btu/lb-water.
- Applications must include the manufacturer's name, model number, and a specification sheet for the proposed grain dryer's operating efficiency.
- Applications must include documentation identifying the proposed annual volume (bushels/year) of grain to be processed.
- Incentive is per number of bushels dried per year.

Grain Storage Temp/Moisture Controller (Reservation required)

- Installation of grain storage temperature/moisture management controller is eligible for this incentive.
- The existing non-controlled fan aeration system must operate a minimum of 1,000 hours per year.
- The proposed system must consist of hanging multiple temperature and/or moisture sensors within the grain storage bin. Outdoor air temperature and relative humidity must also be monitored.
- Data sensors must be digital; analog sensors do not qualify.
- The grain data must be sent to a controller to evaluate the internal bin conditions, as well as, outside air temperature and outside air relative humidity, to control the aeration fans.
- Replacement of existing grain storage management controllers do not qualify.
- Bi-weekly bin inspection is still recommended.
- Aeration fan equipped with VFD's do not qualify for this incentive.
- Incentive is per HP of the controlled system.





Greenhouses

Description		Unit
G	Greenhouse Heat Curtains	Square Foot
G	Greenhouse Infrared Film	Square Foot
G	Greenhouse Environmental Controls	Square Foot
G	Greenhouse Under-Floor/ Under-Bench Hydronic Heating	without Thermal Curtain
G		with Thermal Curtain

Greenhouse Heat Curtains (Reservation required)

- Incentives are available for heat curtains that are required to be installed for heat retention in an existing gas-heated commercial growing greenhouse for agricultural use.
- Must be designed for and installed as a heat curtain.
- Curtain should meet or exceed a natural gas savings rating of 40% or better.
- The incentive applies to either a new curtain where a curtain was not previously in place or to replace an existing curtain that is no longer functional and is at least 5 years old.
- Incentive is per square foot of roof area. Floor plan must be submitted verifying square footage.

Greenhouse Infrared Film - new or replacement (Reservation required)

- Incentives are available for greenhouse film which must be infrared, anti-condensate, polyethylene plastic with a minimum thickness of 6 mils.
- Incentive is for use in an existing gas heated greenhouse.
- The IR poly must be put in place of regular poly or as a replacement for IR poly that has been in place at least 5 years.
- Coating applied onsite to existing film does not qualify.
- Incentive is per square foot of roof area. Floor plan must be submitted verifying square footage.

Greenhouse Environmental Controls (Reservation required)

- Incentives are available for the installation of automated environmental controls system to an existing greenhouse space which does not have any automatic, scheduled temperature setback controls.
- The environmental control system must, at the very least, control greenhouse space temperature set points with an hourly control configuration.
- This measure does not apply to greenhouses that are manually set back.
- A minimum setback space temperature of at least 5 °F is required.
- Incentive is per square foot. A floor plan must be submitted verifying square footage.

Greenhouse Under-Floor/Under-Bench Hydronic Heating

- Incentives are available for installing under-floor (within concrete or direct contact) or under-bench hydronic heating loop for agricultural greenhouse applications.
- If the plant's root temperature is maintained at 67°F, the air temperature surrounding the plant may be allowed to decrease 10°F to 12°F down to approximately 55°F.
- The existing heating system must be a forced air heating system (i.e., unit heaters).
- The forced air heating system may be retained for secondary, supplemental heating or for backup; however, it may not be utilized as the primary heating means.
- Proposed boiler system must be high efficient with a minimum efficiency of 90%.
- The temperature sensor(s) serving the underfloor or under bench hydronic heating system must be located within the growing media.
- The incentive is based on the area served by the underfloor hydronic heating system. The under-bench's incentive is based on the area of the benches served by the hydronic heating system.
- Incentive is per square foot.





Incentives Worksheet

Farm Energy Audit

Equipment Type	Incentive	Unit	# of Units	Total Incentive
EG Farm Energy Audit	\$500.00	Farm		
Farm Energy Audit Total Incentives				

Irrigation Equipment

Equipment Type	Incentive	Unit	# of Units	Total Incentive
E Variable Frequency Drives on Irrigation Systems (Reservation required)	\$20.00	HP		
E Sprinkler to Drip Irrigation Systems (Reservation required)	\$35.00	Acre		
E Low Pressure Sprinkler Nozzles (Reservation required)	\$0.50	Nozzle		
E Low-Energy Livestock Waterer	\$125.00	Unit		
Irrigation System Total Incentives				

Dairy Equipment

Equipment Type	Incentive	Unit	# of Units	Total Incentive
E Scroll Compressor for Dairy Refrigeration	\$0.04	lb milk/day		
E Variable Frequency Controller for Vacuum Pump (Reservation required)	\$75.00	HP		
E VFD on Milk Pump (Reservation required)	w/existing pre-cooler	lb milk/day		
	w/new pre-cooler	lb milk/day		
E Milk Pre-cooler (heat exchanger, chiller savings)	\$0.10	lb milk/day		
Dairy Equipment Total Incentives				

Dairy Refrigeration Tune-Up

Equipment Type	Incentive	Unit	# of Units	Total Incentive
E Dairy Refrigeration Tune-Up	\$0.02	lb milk/day		
Tune-up Total Incentives				

Site Name _____ Date of Tune-up(s) _____

Company performing Tune-Up(s) _____ Technician performing Tune-Up(s) _____

Tune-Up Checklist

- Clean and inspect condenser coils
- Clean and inspect evaporator coils
- Clean drain pan
- Inspect and clean fans
- Clean/replace screens, grills, filters and dryer cores
- Inspect/adjust heat reclaim operation
- Tighten all line voltage connections
- Inspect/replace relays and capacitors as needed
- Add/remove refrigerant charge as necessary

Description	Pre	Post
Record head pressure (psig)		
Record refrigerant charge (psig)		
Record subcooling (°F)		
Record superheat (°F)		
Record liquid line temperature (°F)		
Record defrost heater amperage draw (A)		
Record compressor motor amperage draw (A)		
Record condenser fan amperage draw (A)		
Record box product temperature (°F)		
Record suction pressure (psig)		
Record suction temperature (°F)		



Incentives Worksheet

Fans

Equipment Type	Incentive	Unit	# of Units	Total Incentive
E Circulation/Exhaust/Ventilation Fans	24"-35" fan blade diameter	\$30.00	Fan	
	36"-47" fan blade diameter	\$50.00	Fan	
	48"-71" fan blade diameter	\$100.00	Fan	
E High-Volume, Low-Speed Fans	16-foot fan blade diameter	\$250.00	Fan	
	18-foot fan blade diameter	\$400.00	Fan	
	20-foot fan blade diameter	\$600.00	Fan	
	22-foot fan blade diameter	\$700.00	Fan	
	24-foot fan blade diameter	\$800.00	Fan	
E Fan Thermostat Controller (reservation required)	\$50.00	HP		
Fans Total Incentives				<input type="text"/>

VFDs for Fans and Pumps

Equipment Type	Incentive	Unit	# of Units	Total Incentive
E VFD on Fans	750-2,000 hours/year	\$30.00	HP	
	more than 2,000 hours/year	\$40.00	HP	
E VFD on Pumps	750-2,000 hours/year	\$30.00	HP	
	more than 2,000 hours/year	\$60.00	HP	
VFD for Fans Total Incentives				<input type="text"/>

Grain Dryers

Equipment Type	Incentive	Unit	# of Units	Total Incentive
G High Efficiency Grain Dryers (Reservation required)	\$0.04	Bushels dried/year		
E Grain Storage Temp/Moisture Controller	\$50.00	HP		
Grain Processing Total Incentives				<input type="text"/>

Greenhouses

Equipment Type	Incentive	Unit	# of Units	Total Incentive
G Greenhouse Heat Curtains	\$0.10	Square Foot		
G Greenhouse Infrared Film	\$0.10	Square Foot		
G Greenhouse Environmental Controls	\$0.15	Square Foot		
G Greenhouse Under-Floor/ G Under-Bench Hydronic Heating	without Thermal Curtain	\$0.13	Square Foot	
	with Thermal Curtain	\$0.08	Square Foot	
Greenhouse Total Incentives				<input type="text"/>

Custom Lighting Specifications and Worksheet (Reservation Required)

Reservation Applications must be submitted for all lighting projects while the existing equipment is still in operation so that existing conditions (base case) can be verified. All Final Applications MUST include manufacturers' equipment specification sheets.

Only lighting listed by the Design Light Consortium (DLC) is eligible for custom lighting incentives. Non-listed lighting **may** be eligible under certain circumstances. See the **Non-DLC Product Approval Form** for details. Fluorescent and CFL lighting is **not** eligible. To determine whether your equipment is DLC-listed, visit www.designlights.org. In order to receive the higher incentive, you must list the DLC product ID in the description field on the Application. A Reservation Application is required and specification sheets must be attached to the Reservation Application.

- Reservation Applications must be submitted for all lighting projects while the existing equipment is still in operation so that existing conditions (base case) can be verified.
- All Final Applications MUST include manufacturers' equipment specification sheets
- Lighting projects must involve a lighting improvement that results in a permanent reduction in electrical (kWh) energy usage due to an increase in system efficiency.
- Projects that result in reduced energy consumption without an improvement in system efficiency are not eligible for a custom incentive.



- Lighting must be used as part of the agriculture process; this measure is not allowed for personal/residential use.
- Lighting hours must have a minimum of 2,000 annual hours of operation to apply for this measure.
- Incentive is per kWh saved.

Requirements for Lighting Project Savings Calculation:

- The annual electricity savings must be calculated for lighting projects using industry accepted engineering algorithms or simulation models. The applicant must estimate the annual electricity usage of both the existing and proposed equipment based on the current operation of the facility.
- If the existing equipment is at the end of its useful life, the applicant must substitute equipment that would meet the applicable federal and local energy codes when calculating the annual energy savings.
- The applicant must be able to clearly describe the method used to calculate the savings. The applicant must provide all assumptions used in the calculations and justify or cite a precedent for the assumptions.
- Acceptable methods of determining lighting project energy savings include detailed calculations, equipment or subsystem metering and/or a building energy model. DTE Energy will review the Application and is solely responsible for the final determination of the annual energy savings to be used in calculating the incentive amount.
- DTE Energy may need to conduct inspections both before and after the retrofit projects to verify equipment and operation conditions. DTE Energy also reserves the right to require specific measurement and verification activities, including monitoring, both before and after the retrofit, and to base the incentive payment on the results of these activities.

Brief Description of Pre- and Post-Fixtures	Annual Hours of Operation (A)	Pre-Upgrade # of Fixtures (B)	Pre-Upgrade kW/Fixture (C)	Post-Upgrade # of Fixtures (D)	Post-Upgrade kW/Fixture (E)	Total kWh Reduced $A \times ((B \times C) - (D \times E)) = (F)$	Incentive \$/kWh (G)	Total Incentive (F x G)
E							\$0.07	
E							\$0.07	
E							\$0.07	
E							\$0.07	
E							\$0.07	
E							\$0.07	
E							\$0.07	
E							\$0.07	
E							\$0.07	
E							\$0.07	
E							\$0.07	
Lighting Total Incentives								



Submission Instructions

Remember that, although a Reservation is not required for your project, we highly recommend submitting one to ensure that we set aside funds for your project.

How to submit your Reservation Application*

1. Complete the Application.

- a. Ensure that you have completed the Customer information (Page 4).
- b. Ensure that you have completed the Contractor information (Page 5).

2. Complete all relevant worksheets for your project.

3. Submit your Reservation Application electronically by clicking here
or

Fax to: 313.664.1950

or

Print and mail to:

DTE Energy Efficiency Program for Business
P.O. Box 11289
Detroit, MI 48211

SUBMIT

* Submission of a Reservation Application does not guarantee that funds will be available.

How to submit your FINAL Application - once your project is completed[†]

1. Complete or confirm all information on your Application.

- a. Confirm your Customer Information. (Page 4)
- b. Confirm your Contractor Information. (Page 5)
- c. If you want your Contractor to be paid the incentives directly, make sure you complete and sign the Third-Party Payment Authorization (Page 5)

2. Complete or confirm all relevant worksheets for your project.

3. Submit your Final Application electronically by clicking here
or

or

Fax to: 313.664.1950

or

Print and mail to:

DTE Energy Efficiency Program for Business
P.O. Box 11289
Detroit, MI 48211

SUBMIT

[†] Your Final Application must be submitted within 60 days of project completion.

Don't forget to attach to your email or include in your faxed or mailed submission all the required invoices and manufacturers' specification sheets.