

Delaware DNREC Cool Switch Low-Impact Refrigerant Program

Program Guidelines and Operational Procedures

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DNREC DIVISION OF
**CLIMATE, COASTAL
AND ENERGY**

Energy Programs

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1.0 Purpose

The purpose of these guidelines is to define procedures relating to the Cool Switch Low-Impact Refrigerant Program (Cool Switch). The goal in establishing these guidelines is to provide a streamlined procedure for administering and distributing program funds.

Cool Switch promotes the use of refrigerants with a global warming potential (GWP) lower than 1,500, unless specifically prohibited by the Division of Air Quality's HFC regulations, by Delaware non-residential, commercial, and industrial customers. Applicants should keep abreast of regulations currently under development that may affect the continued use of certain HFCs in Delaware. For more information, please visit <https://dnrec.delaware.gov/air/permitting/under-development/> or <https://regulations.delaware.gov/AdminCode/title7/1000/1100/1151.shtml>.

These guidelines provide rules of practice and procedures for rebate applications and disbursement of rebates for refrigeration projects in Delaware.

2.0 Appropriations

DCCE is the designated recipient and administrator of several funding streams, each having specific disbursement requirements and customer eligibility. Cool Switch is currently funded by the Regional Greenhouse Gas Initiative (RGGI).

2.1 Regional Greenhouse Gas Initiative (RGGI)

RGGI is a cooperative, market-based program that aims to cap and reduce carbon dioxide (CO₂) emissions from power plants within twelve participating Northeast and Mid-Atlantic states, including Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont and Virginia. DCCE receives RGGI funding from the state selling emission allowances through auctions to be used for investments in energy efficiency. DCCE has elected to utilize a portion of the RGGI proceeds to fund Cool Switch. These funds are subject to change due to auction results which may result in changes to program eligibility.

2.2 Limitation of Funds

The source of funding is limited and should be considered one-time disbursements. The applicant shall follow program guidelines to ensure reservation of funds prior to any equipment purchase or installing a qualifying system. DCCE will provide notice if program funds are close to being exhausted for the fiscal year.

3.0 General Provisions

All rebates are on a first-come, first-served basis. DCCE reserves the right to suspend, terminate, or modify the program at any time. DCCE may change program requirements, eligible measures, or rebate amounts at any time. DCCE is not obligated to approve any submitted application that may result in exceeding the program budget. In the event of a program change, submitted applications will be processed according to program terms at the time of application pre-approval. The applicant or contractor on behalf of the applicant is fully responsible for providing a complete application and supporting documentation. Incomplete or missing information will delay and/or cancel processing of an application.

All equipment must be new, purchased, and installed before the rebate payment can be issued. DCCE does not endorse any particular contractor, manufacturer, product, or system in promoting this program.

The applicant agrees to allow DCCE or its program evaluator to have access to the awarded facility's energy use data for a period of at least two years following installation of the incentivized measures. Additionally, applicant agrees to DCCE publicly publishing awardee details such as but not limited to: total rebate award amount, facility address, total project cost, fuel type, energy provider, fund appropriation, date completed, project type, dollar savings per year, and applicant approved facility photographs.

4.0 Eligibility

The Cool Switch Program is available to non-residential entities that use at least 50 pounds of refrigerant in their current facility(ies). Usage may be based on one facility or multiple facilities in aggregate. Installed refrigerants must have a GWP of less than 1,500 and cannot be on the Division of Air Quality's prohibited HFC list. Applicants should keep abreast of regulations currently under development that may affect the use of certain HFCs in Delaware.

4.1 Permits

All Cool Switch applicants must attest to obtainment of all relevant permits from DCCE and all other necessary state, local, regional, and federal permits during the application process.

4.2 Warranties, Insurance, and Licensure

Installing contractors, and anyone acting under its direction, shall at its own expense procure and maintain in full force at all times Commercial General Liability Insurance with a bodily injury and property damage combined single limit of liability of at least one million dollars (\$1,000,000) for any occurrence.

Installing contractors shall maintain appropriate education and licenses, industry certificates, and accreditations to ensure the program preserves the end-users' expectation of professional work. The installing contractor must have an active Delaware business license, Delaware trade specific license, certificate of general liability insurance and training certificates. Where industry certification programs have been promulgated, program applicants are encouraged to use industry certified contractors.

Additional resources to provide or receive licensure include:

- Confirm Delaware professional license: https://delpros.delaware.gov/OH_VerifyLicense
- Confirm Delaware business license: <https://revenue.delaware.gov/business-license-search/>
- Apply for Delaware License: <https://onestop.delaware.gov/>

4.3 Code Compliance

All qualifying systems must be installed in accordance with the standards and specifications of the manufacturers of the components in the system, in compliance with all federal, state, and local safety, building, and environmental codes and ordinances, as well as these guidelines. Where discrepancies, if any, exist with these guidelines and local codes, local codes shall govern.

With regard to Delaware's current building energy code, qualifying systems must exceed minimum code requirements in order to be considered for energy efficiency rebate funds. For more on Delaware's energy codes, please see de.gov/energycodes.

All equipment must be tested to Underwriters Laboratory ("UL") standards, be UL listed and installed per manufacturer's instructions.

4.4 Equipment Retirement and Disposal

The customer and contractor shall appropriately retire and dispose of any product replaced as a result of a Cool Switch program rebate. The customer is responsible for the proper disposal or recycling of any waste generated as a result of the project.

4.5 Tax Liability

The applicant is responsible for any tax liability imposed as a result of the payment of rebates. Applicants are advised to contact a tax professional for more information.

5.0 Program Limits

Individual rebate awards will not exceed \$250,000 per individual address per calendar year without written approval from the Division Director. The rebate for a project will be paid at a rate of \$25 per avoided metric ton of CO₂-equivalent emissions. DCCE reserves sole discretion to adjust program rebate caps. Particular consideration will be placed on organizations that support DCCE's commitment to helping vital, yet vulnerable sectors of the community, including: minority, women, and veteran owned businesses; small businesses (defined by the Delaware Dept. of Small Business as 100 employees or less); nonprofit organizations; educational institutions; state agencies; and local governments. To ensure availability, funding must be reserved prior to purchasing any equipment.

6.0 General Application Process

The applicant, or contractor acting on behalf of the applicant, should confirm that the proposed Cool Switch project qualifies for a rebate based on the program requirements. Then, submit a completed Cool Switch rebate application, including all required supplementary documentation as outlined in the Application Requirements section for the applicable Cool Switch pathway, through the online Energy Efficiency application portal. After an application is received, it is classified as "pending status", and will expire after 3 months if any missing documentation is not provided. For first-time visitors to the portal, an account must be first registered before an application can be processed.

If you have questions about the application process or need help completing an application, please email DCCE.EnergyRebates@NV5.com or call 802-484-5645.

6.1 Pre-Approval

All projects *require* pre-approval prior to any refrigerant or equipment purchase, or any services completed to ensure that the proposed project is eligible for rebate funds and to reserve eligible funds. After receipt of the completed application and all required supplementary documentation, DCCE will evaluate the project for consideration of project pre-approval. The contractor and customer are fully responsible for ensuring that all forms and documentation have been supplied and the system meets all program requirements. If the requirements have been successfully met, a pre-approval letter will be issued by DCCE to the applicant. Once the rebate is pre-approved, the applicant has 12 months to complete a retrofit project or 24 months to complete a new construction project or the application will be considered expired. Expired applications are considered closed, and a new application is needed if the project is restarted. Upon pre-approval, new refrigerant, and equipment if applicable must be purchased and installed before the rebate payment can be issued.

6.2 Inspections

All applications are subject to pre-installation and/or post-installation inspections at the discretion of DCCE. All customers agree to allow access to proposed and installed refrigerants and equipment for the purposes of inspection and verification. If DCCE determines that the customer eligibility, proposed equipment, or installed equipment does not meet the program's criteria, DCCE may withhold payment of the rebate amount and/or require changes before issuing payment.

6.3 Invoices and Other Final Documentation

After the applicant receives pre-approval and completes the installation, the customer or contractor performing services on behalf of the customer must provide copies of all itemized invoices. Invoices, and other documentation as necessary, must verify the costs of purchasing and installing all qualifying equipment and refrigerants, including material and installation costs. Quotes cannot be accepted. Itemized invoices are required, and the applicant must highlight any changes in the project scope on those invoices from the proposed quote, which may result in an adjustment of the approved rebate amount. Proof of payment must be submitted prior to rebate payment being issued.

Additionally, applicants are required to register as a supplier with the State of Delaware and fill out the DCCE eSupplier Information Sheet prior to final approval document submittal. The eSupplier Information Sheet, provided during pre-approval, should accurately match the information as it was entered in the eSupplier Portal. Supplier ID number, name of the payment recipient, and mailing address provided on the eSupplier Information Sheet will be confirmed against original project application prior to final payment review.

If your business has previously registered and has an existing supplier ID, you will not be able to register again under the same tax ID. The business contact on file is required to retrieve an existing supplier ID number. For eSupplier portal issues contact FSF_Supplier_Maintenance@delaware.gov or (302) 672-5000.

6.4 Final Approval

Once the proposed measure(s) has been successfully installed, final approval is *required* from DCCE prior to rebate payment being issued. This ensures that, if the installation costs associated with the project change during construction, the final rebate award will be adjusted to reflect said changes. Upon receiving final approval, DCCE will send a letter notifying the applicant or contractor of payment approval before putting in a request for payment. Rebate payments should be received approximately 10-12 weeks after the date of final approval.

6.5 Proprietary Application Information

DCCE may make all applications submitted available to non-state personnel for the sole purpose of assisting in its evaluation of the applications. These individuals will be required to protect the confidentiality of any specifically identified proprietary information obtained as a result of their participation in the evaluation. Proposals submitted may contain trade secrets and/or privileged or confidential commercial or financial information which the applicant does not want to be used or disclosed for any purpose other than evaluation of the application. The use and disclosure of such data may be restricted, provided the applicant follows DCCE's "Request for Confidentiality" procedure contained in DCCE's "Freedom of Information Act" or "FOIA" regulation. It is important to understand that this FOIA regulation's confidentiality procedure is a necessary part of this regulation in that any information submitted to DCCE is subject to public review unless deemed to be confidential by the Secretary in accordance with the criteria and procedures established in the FOIA regulation. The burden lies with the applicant asserting the claim of confidentiality to meet the criteria established in the FOIA regulation.

6.6 Dispute Resolution

Should an applicant be denied a rebate and disagrees with outcome, the applicant must contact DCCE in writing. DCCE will respond after the determination. Should DCCE deem the application eligible, the application will be processed.

7.0 Rebate Pathways

Cool Switch offers two primary rebate pathways to Delaware non-residential entities with existing or new buildings. Both pathways, and their respective offerings, can be paired with other energy efficiency and renewable energy programs that DCCE administers. These include the Energy Efficiency Investment Fund (EEIF) and the Revolving Loan Fund (RLF). For more information on DCCE’s other energy programs, see Section 8.

7.1 Existing System Retrofit Pathway

Existing system retrofit projects are appropriate for businesses wishing to replace high GWP refrigerants in existing equipment with low GWP alternatives. High GWP refrigerants are those such as R-22, R-404A and R-407A and others with GWP values greater than or equal to 1,500. Low GWP refrigerants are those such as R-449A, R-448A and others with GWPs less than 1,500. In addition, there are some refrigerants with a GWP lower than 1,500 that are still prohibited: R-365mfc, R-245fa, and R-134a.

7.1.1 Existing System Savings and Rebate Calculations

The rebate for a project will be paid at a rate of \$25 per avoided metric ton of CO₂ equivalent emissions. Savings will be calculated using the following formula:

Formula 1. Avoided Emissions of CO₂-equivalent GHGs

| |
|---|
| $\text{mtCO}_2\text{e} =$ $\text{Years of Operation} * [(GWP_b * \text{Charge}_b * \text{Leakage}_b) - (GWP_N * \text{Charge}_N * \text{Leakage}_N)] / 2,204.6$ |
|---|

In the equation above, “GWP” corresponds to refrigerant global warming potential defined as equivalent pounds of CO₂ per pound of refrigerant; “charge” corresponds to pounds of refrigerant; “leakage” corresponds to annual estimated percent loss of refrigerant to atmospheric emissions; and the subscripts B and N correspond to baseline and new refrigerant systems, respectively. Pounds of CO₂ equivalent emissions are converted to metric tons using a standard conversion factor of 2,204.6 pounds per metric ton. In cases where the actual existing leakage rate exceeds allowable federal maximums, the federal maximum will be used instead. Standard GWP values can be found in Appendix A. Rebates will not exceed \$250,000 or 50% of the total project cost, whichever is less.

7.1.2 Existing System Application Requirements

Applications must be completely and accurately submitted before rebates can be paid.

Required documentation includes:

Pre-Approval:

- Specification (cut) sheets for all equipment
- Technical data and testing laboratory information
- Itemized quotes and estimates for all equipment and the scope of work
- Project cost estimates
- Construction drawings/documents (if new construction)
- Documentation of existing system leakage rate

Final Approval:

- Itemized invoices for all equipment and the scope of work
- Proof of payment

- Online registration through the State of Delaware eSupplier Portal (www.esupplier.erp.delaware.gov)
- Completed eSupplier Information Sheet
- Installer’s Commercial General Liability Insurance certificate
- Installer’s appropriate business license(s) for the State of Delaware and trade specific license

Additional information may be requested upon review of initial proposal as deemed appropriate by DCCE.

7.2 New System Pathway

New system projects are appropriate for businesses wishing to install a new refrigerant system, either in a newly constructed facility, a facility in which a major renovation is taking place or to replace an existing piece of equipment that has passed its useful lifespan. The new systems pathway encourages participants to install systems that use refrigerants with low GWPs, such as R-449A, R-448A and others, or very low GWP refrigerants such as ammonia and carbon dioxide. New systems must use a refrigerant with a GWP less than 1,500 to be eligible for rebates through the Cool Switch program.

7.2.1 New System Savings and Rebate Calculations

The rebate for a project will be paid at a rate of \$25 per avoided metric ton of CO₂ equivalent emissions. Savings will be calculated using the following formula:

Formula 1. Avoided Emissions of CO₂-equivalent GHGs

$$\text{mtCO}_2\text{e} = \text{Years of Operation} * [(GWP_b * \text{Charge}_b * \text{Leakage}_b) - (GWP_N * \text{Charge}_N * \text{Leakage}_N)] / 2,204.6$$

In the equation above, “GWP” corresponds to refrigerant global warming potential defined as equivalent pounds of CO₂ per pound of refrigerant; “charge” corresponds to pounds of refrigerant; “leakage” corresponds to annual estimated percent loss of refrigerant to atmospheric emissions; and the subscripts B and N correspond to baseline and new refrigerant systems, respectively. Pounds of CO₂ equivalent emissions are converted to metric tons using a standard conversion factor of 2,204.6 pounds per metric ton. Standard GWP values can be found in Appendix A.

For conventional systems, rebates will not exceed \$250,000 or 25% of the total project cost. For natural refrigerant systems, rebates will not exceed \$250,000 or 50% of the total project cost, whichever is less.

7.2.2 New System Application Requirements

Applications must be completely and accurately submitted before rebates can be paid.

Required documentation includes:

Pre-Approval:

- Specification (cut) sheets for all equipment
- Technical data and testing laboratory information
- Itemized quotes and estimates for all equipment and the scope of work
- Project cost estimates
- Construction drawings/documents (if new construction)

Final Approval:

- Itemized invoices for all equipment and the scope of work
- Proof of payment
- Online registration through the State of Delaware eSupplier Portal (www.esupplier.erp.delaware.gov)
- Completed eSupplier Information Sheet
- Installer's Commercial General Liability Insurance certificate
- Installer's appropriate business license(s) for the State of Delaware and trade specific license

Additional information may be requested upon review of initial proposal as deemed appropriate by DCCE.

7.3 Ultra-Low and Natural Refrigerant Bonus

To further enhance the environmental benefits of Cool Switch, a new 25% bonus incentive has been introduced that targets refrigeration systems utilizing refrigerants with a GWP of less than 10 *or* those employing natural refrigerants. The bonus will be automatically applied to the final rebate amount distributed to the applicant and/or contractor pursuing a qualifying refrigeration project through *both* program pathways. To view GWP values associated with common chemical and natural refrigerants, please refer to Appendix A.

8.0 Other DCCE Energy Program Offerings

DCCE offers a series of energy efficiency and renewable energy programs that can be used to supplement rebates issued through Cool Switch. These include the Energy Efficiency Investment Fund (EEIF) and the Revolving Loan Fund (RLF). A brief description of each program and their respective tie-ins to Cool Switch are detailed below.

8.1 State Energy Efficiency Investment Fund (EEIF)

The EEIF program offers rebates to help offset the upfront costs associated with energy-efficient improvements and upgrades to non-residential entities that pay the Public Utility Tax (PUT). Applicants with questions about whether they pay the PUT are encouraged to reach out to the EEIF implementation team prior to submitting an application to confirm funding eligibility. Cool Switch participants with qualifying refrigeration projects are encouraged to apply for additional funding through EEIF in order to maximize building energy savings and improve environmental performance. and EEIF rebates can be applied to the same refrigeration project, depending on whether or not the project meets the eligibility requirements for both programs. For additional information, please visit the EEIF website at: de.gov/eeif.

8.2 State Energy Revolving Loan Fund (RLF)

The RLF program offers low-interest loans to any Delaware entity pursuing a qualifying energy project. Financing provided through the RLF can be used to support numerous energy efficiency and renewable energy measures, including equipment retrofits and replacements and rooftop and community solar installations. Borrowers can be from the commercial, industrial, nonprofit, educational, government, agricultural, and institutional sectors. Loan underwriting is conducted in-house, thereby allowing for greater flexibility in loan terms and conditions. Loan approval will not compromise an applicant's Cool Switch rebate, meaning that loans can be used in combination with a rebate to help cover project costs. To apply for a loan, please fill out the following application [form](#).

Appendix A: GWP Table

The table below provides the GWP values to be used for calculation of project emissions reductions. The table was obtained from the California Air Resources Board¹.

| Refrigerant Name | Trade or Common Name | Global Warming Potential |
|------------------|----------------------|--------------------------|
| R-717 | Ammonia | 0 |
| R-1234ze(E) | Solstice ze | 1 |
| R-1224yd(Z) | AMOLEATM 1224yd | 1 |
| R-744 | CO ₂ | 1 |
| R-1234zd(E) | Solstice zd | 1 |
| R-514A | Opteon XP30 | 2 |
| R-290 | Propane | 4 |
| R-600a | Isobutane | 5 |
| R-170 | Ethane | 6 |
| R-601 | Pentane | 11 |
| R-161 | HFC-161 | 12 |
| R-123 | HCFC-123 | 77 |
| R-225ca | HCFC-225ca | 122 |
| R-152a | HFC-152a | 124 |
| R-454B | Opteon XL41 | 466 |
| R-225cb | HCFC-225cb | 595 |
| R-450A | Solstice N13 | 601 |
| R-124 | HCFC-124 | 609 |
| R-513A | Opteon XP10 | 631 |
| R-32 | HFC-32 | 675 |
| R-452B | Opteon XL55 | 676 |
| R-141b | HCFC-141b | 725 |
| R-466A | | 733 |
| *R-365mfc | HFC-365mfc | 794 |
| R-401C | Suva MP-52 | 933 |
| *R-245fa | HFC-245fa | 1030 |
| R-416A | FRIGC FR-12 | 1084.33 |
| R-401A | MP39 | 1182.48 |
| R-401B | MP66 | 1288.26 |
| R-414B | Hot Shot | 1362.035 |
| R-448A | Solstice N40 | 1387 |
| R-449A | Opteon XP40 | 1397 |
| *R-134a | HFC-134a | 1430 |
| R-414A | GHX4 | 1478.015 |

*Prohibited refrigerants as outlined in Del. C. 7 Code 1151 *Prohibitions on Use of Certain Hydrofluorocarbons in Specific End-Uses*

¹ <https://ww2.arb.ca.gov/resources/documents/high-gwp-refrigerants#:~:text=Global%20Warming%20Potential%2C%20or%20GWP,destructive%20a%20climate%20pollutant%20is.&text=The%20most%20common%20refrigerant%20today,a%20ton%20of%20carbon%20dioxide.>

| Refrigerant Name | Trade or Common Name | Global Warming Potential |
|------------------|---------------------------------------|--------------------------|
| R-426A | RS-24 | 1508 |
| R-420A | Choice Refrigerant | 1536 |
| Free Zone | | 1569 |
| R-409A | FX-56 | 1584.75 |
| R-411A | | 1597 |
| Freeze 12 | | 1606 |
| R-407D | | 1627 |
| R-4310mee | HFC-43-10mee, HFC-4310mee, R-43-10mee | 1640 |
| R-411B | | 1705 |
| G2018C | | 1731 |
| R-453A | RS-70, RS-44b | 1765 |
| R-407C | | 1774 |
| R-437A | MO49 Plus | 1805.186 |
| R-417C | Hot Shot 2 | 1809 |
| R-22 | HCFC-22, Freon | 1810 |
| R-407F | | 1824.5 |
| R-442AF | RS-50 | 1888 |
| GHG-HP | | 1893 |
| R-406A | | 1942.8 |
| R-413A | MO49 | 2053.25 |
| R-434A | RS-45 | 2070 |
| R-410A | Puron, AZ-20 | 2088 |
| R-407A | KLEA 60 | 2107 |
| R-427A | | 2138.25 |
| R-452A | Opteon XP44 | 2141 |
| R-410B | AC9100 | 2229 |
| R-438A | MO99 | 2264.55 |
| R-423A | 39TC | 2280.25 |
| R-142b | HCFC-142b | 2310 |
| R-417A | MO59, NU22 | 2346.17 |
| NARM-502 | | 2375 |
| GHG-X5 | | 2377 |
| R-402B | HP-81 | 2416.08 |
| R-424A | RS-44 | 2440 |
| R-422B | NU-22B | 2525.75 |
| R-421A | | 2630.6 |
| R-422D | MO29 | 2729.12 |
| R-402A | HP-80 | 2787.88 |
| R-407B | | 2803.5 |
| R-422C | One Shot | 3084.65 |
| R-422A | | 3143.12 |
| R-421B | Choice 421B | 3190 |

| Refrigerant Name | Trade or Common Name | Global Warming Potential |
|------------------|----------------------|--------------------------|
| R-227ea | HFC-227ea | 3220 |
| R-408A | FX-10 | 3431.9 |
| R-125 | HFC-125 | 3500 |
| R-428A | RS-52 | 3607 |
| Isceon MO89 | | 3804.9 |
| R-404A | HP-62 | 3900 |
| R-507 | AZ-50 | 3985 |
| R-403B | | 4457.5 |
| R-143a | HFC-143a | 4470 |
| R-502 | | 4656.72 |
| R-11 | CFC-11 | 4750 |
| R-113 | CFC-113 | 6130 |
| EP-88 | | 6427.375 |
| R-13b1 | Halon 1301 | 7140 |
| R-115 | CFC-115 | 7370 |
| R-14 | PFC-14, CF4 | 7390 |
| R-500 | | 8077 |
| R-218 | PFC-218 | 8830 |
| R-236fa | HFC-236fa | 9810 |
| R-114 | CFC-114 | 10000 |
| R-12 | CFC-12 | 10900 |
| R-116 | PFC-116 | 12200 |
| R-508B | | 13396 |
| R-13 | CFC-13 | 14400 |
| R-503 | | 14560 |
| R-23 | HFC-23 | 14800 |