



Background

Select manufacturing plants located within the U.S. and its territories are eligible to receive ENERGY STAR certification from the U.S. Environmental Protection Agency (EPA) when they score within the top quartile of energy performance. Industrial plants that are eligible include:

- Aluminum Casting Plants
- Automobile Assembly Plants
- Automobile Engine Plants
- Automobile Transmission Plants
- Cement Manufacturing Plants
- Commercial Bread & Roll Bakeries
- Container Glass Manufacturing Plants
- Cookie and Cracker Bakeries
- Distilled Spirits Plants
- Flat Glass Manufacturing Plants
- Fluid Milk Processing Plants
- Frozen Fried Potato Processing Plants
- Integrated Paper and Paperboard Plants
- Integrated Steel Plants
- Iron Casting Plants
- Juice Processing Plants
- Nitrogenous Fertilizer Manufacturing
- Petroleum Refineries (*Solomon-EII*™ scoring system)
- Pharmaceutical Manufacturing Plants
- Pulp Mills
- Wet Corn Mills

Energy performance for plants in these industries is determined using an Energy Performance Indicator (EPI). EPIs, industry-specific benchmarking tools, score a plant's energy performance and compare it to that of similar plants in its U.S. industry and generate an Energy Performance Score on a scale of 1 to 100. EPA defines a plant to be energy-efficient when its Energy Performance Score is at the 75th percentile or higher (equivalent to a minimum score of 75 on the EPIs).

Definition of a plant type and relevancy of an EPI to a specific plant is discussed in the EPI tool. Current EPIs may be downloaded for use at www.energystar.gov/industrybenchmarkingtools.

Determining Eligibility

Plants eligible for the ENERGY STAR certification must meet the following criteria:

1. Score 75 or better using the current version of the EPI for the plant type utilizing data that are current for the operation of the plant (defined as within one year of the period ending date on the Statement of Energy Performance). For petroleum refineries, scoring within the top 25 percent of refineries for similar crude capacity in the U.S. using *Solomon-EII*™ scoring system.
2. Satisfy the specific eligibility criteria on the "Instructions" sheet of the applicable EPI.
3. Satisfy the following environmental compliance criteria:
 - a. No unresolved .high priority violations of the Clean Air Act (CAA),
 - b. No CAA Consent Decrees within the last year or noncompliance of an existing CAA Consent Decree, and,
 - c. No CAA criminal convictions or pleas within the past 5 years or current criminal environmental investigations involving an employee(s) or corporate officer(s).

When deciding whether a plant satisfies the environmental compliance criteria, EPA considers the magnitude of any existing violations and any recently resolved violations of the CAA. For questions regarding a plant's compliance standing, please send an email to certifiedplants@energystar.gov.

Before Applying

The corporate energy manager must ensure that all eligibility criteria are met for the plant. To meet criteria 1 and 2 in the "Determining Eligibility" section above, the following steps must be performed (criteria 3 will be determined by EPA through an internal compliance screen):

1. *Establish a Formal Certification File:* The corporate energy manager must establish and maintain for five years, a formal certification file that incorporates the energy- and plant-related data required for the EPI. This formal certification file must contain copies of all documents that provide the necessary information for computing an EPI plant score and proving plant eligibility, or, in the case of petroleum refineries, all documents that provide the necessary information for computing the Solomon EII score. *Whenever an ENERGY STAR "EPI" is referenced in this guidance, petroleum refineries would also be expected to maintain the same type of information for the input forms used to determine a Solomon EII score.* The information contained in this file will be reviewed by the Professional Engineer (PE) who must verify its accuracy prior to validating the Statement of Energy Performance. Examples of this information include raw data used to compute a score in the EPI along with supporting records such as fuel purchases, utility bills, other specific inputs as used in the EPI, internal records of production for the period of application, conversion factors, calculations, and related assumptions.

The formal certification file is a stand-alone, self-explanatory file and must be maintained for five years after certification. All source material, assumptions, communications, etc., are documented such that anyone reviewing the file would not need the corporate energy manager to explain why or how any aspect was executed.

The file may be physical (e.g., a three-ring binder), electronic (e.g., a specific "folder" or directory saved on a corporate file server), or some combination. Regardless of format, it is necessary all information is compiled in a centrally accessible location so an auditor can obtain immediate access to the formal certification file upon notification of an audit. For example, emails exchanged within the company or with EPA during the application process would be archived to the formal certification file, not maintained in a corporate email box. Centralizing all information helps assure that the formal certification file would not be lost when personnel change jobs.

The formal certification file contains all information submitted to EPA (or its designated reviewer in the case of proprietary data claims – currently Duke University, and, in the case of petroleum refineries, Solomon Associates) as part of the certification application. This includes the completed original Energy Performance Indicator (or for refineries, the data input forms used to compute the Solomon EII score), the original PE-stamped Statement of Energy Performance, and copies of any communications exchanged with EPA (and Solomon Associates for refineries) regarding questions, clarifications, and exceptions related to certification instructions and requirements. It will also include the original PE Verification Checklist at the conclusion of PE verification.

The formal certification file contains all source data underlying numbers entered into the EPI. This means:

- ✓ All energy data are supported by utility invoices or a download from a company database. Any conversion factors, calculations, or assumptions are documented.
- ✓ All measures of production (e.g., units produced, material inputs, labor hours) are supported by company records. Any conversion factors, calculations, or assumptions are documented along with the sources of all such information.
- ✓ Any metrics affecting eligibility to use the EPI are supported by calculations. For example, if a minimum of 50% of production must be from specific production categories in order to use the EPI, the documentation would include detailed records of products produced, how those products are mapped to

the categories specified in the EPI, and the calculated total share of production from the relevant categories.

- ✓ All other characteristics unique to a specific type of EPI (e.g., maximum daily throughput, number of kilns, automobile wheelbase) are documented using types of records appropriate to the specific characteristic.
- ✓ Where required, all weather data (heating/cooling degree days) from the ENERGY STAR degree day calculator are referenced.

Note: It is not adequate to document source data by referring to the company database from which it was derived. Company databases are often revised due to utility adjustments, and internal and external audits and reconciliations. If data are taken from a database, some static record of the source data (e.g., monthly data downloaded into a non-linked spreadsheet, a screen-shot of the data from the date on which the data were used to populate the EPI) must be maintained in the formal certification file to show that the source data matched the values entered into the EPI on the date of EPI preparation.

Lastly, the formal certification file contains all non-data background information supporting the plant's eligibility for certification, and the preparation of submitted materials.

2. *Complete the EPI:* Download the most current version of the correct EPI for your industry and input the necessary data identified on the EPI. The dataset must include 12 months of continuous data ending within one year of when the application is submitted. If a plant applies for recertification the following year, the plant must use the subsequent 12-month period of continuous data. If you need to change this period, please contact ENERGY STAR prior to applying for certification. For facilities that recertify see section below titled "Reapplication for ENERGY STAR Certification."

Petroleum Refineries are scored by a separate system operated by Solomon Associates. For further information, please contact Allan Buikema at allan.buikema@solomoninsight.com.

If the person responsible for compiling and entering the data in the EPI is the same as the PE we recommend another person review the EPI.

3. *Have a PE Review EPI and Validate the Statement of Energy Performance:* When the correct data are entered into the EPI and the plant scores 75 or higher, a PE must verify that all information used to generate an Energy Performance Score is accurate and documented in company records. The PE must sign and stamp the Statement of Energy Performance attached to the EPI. PEs who validate an application for a petroleum refinery will receive a Statement of Energy Performance from Solomon Associates to sign and stamp. In providing his/her stamp upon the Statement of Energy Performance, a PE validates that the data entered into the EPI (or Solomon data input forms) are accurate. To do this, the PE must have the ability and be able to demonstrate that the plant has met the eligibility requirements and validate the data as authentic, accurate and complete. The Statement of Energy Performance must bear the seal and signature of the licensed PE who remains responsible for all work performed by others under his/her direction and control.

The PE validating the Statement of Energy Performance is not required to be licensed in the same state where the plant is located, and may be licensed within any Canadian Province, or territory of the U.S. or Canada. The PE may also be employed by the company.

For more information regarding the PE verification process, please refer to the *ENERGY STAR Industrial Plant Certification Professional Engineers' Guide for Validating Statements of Energy Performance*.

4. *Have PE Complete the PE Verification Checklist:* The Verification Checklist outlines main areas the PE needs to review and confirm as part of the verification process. This ensures consistency among all PEs that review ENERGY STAR EPIs. The PE must complete the checklist for each facility and note any findings or corrections from the review. PEs who validate an application for a petroleum refinery are

expected to complete this form and address each question as it relates to verifying the data used to generate a Solomon EII score.

5. *Determine EPI Third Party Verification Option:* The EPI score must be verified by EPA by replicating the results using the same plant data used by the corporate energy manager. There are two options for verification. Applicants will choose an option based on whether they consider the information used to generate an EPI score proprietary.
 - a. Non-Proprietary: If data used to calculate the EPI are not considered proprietary information, send a print out of the EPI along with the Statement of Energy Performance to EPA as part of the application.
 - b. Proprietary: If any information used to generate an EPI score is deemed proprietary, a copy of the EPI should be sent to Dr. Gale Boyd and Matthew Doolin the EPA-designated EPI reviewers. Dr. Boyd will recalculate the score using the propriety inputs and notify EPA of the outcome. Dr. Boyd's communication with EPA will become part of the official EPA file for this plant if EPA recognizes it with the ENERGY STAR plant certification. Additionally, the applicant must indicate on the Statement of Energy Performance that this option will be used to verify the EPI results.

Upon request, Dr. Boyd will provide a non-disclosure agreement between Duke University and the applicant for this purpose. Company-provided non-disclosure agreements will not be considered.

Dr. Gale Boyd and Matt Doolin may be contacted at gale.boyd@duke.edu and matthew.doolin@duke.edu or (919) 660-6892. Companies should receive a response within three business days.

For Petroleum Refineries, Solomon Associates performs the third party verification. For further information, please contact Allan Buikema at allan.buikema@solomoninsight.com.

6. *Complete the additional application forms.* The additional application forms (<https://www.energystar.gov/plantcertificationapplication>) include the *Plant Award Application Letter* and the *Plant Award Specification Sheet*. These forms may be found on the ENERGY STAR website or upon request from the applicant. If a company requests certification for more than one plant it may use **one** Plant Award Application Letter and the Plant Award Specification Sheet. Each plant, however, must have a unique Statement of Energy Performance, EPI and PE Verification Checklist.

Application and Materials

After the corporate energy manager has determined eligibility and completed the requirements discussed in the "Before Applying" section above, PDFs of the following application documents will need to be sent via email to EPA at the address listed below under the "Where to Apply" section. The information that must be received by EPA in order to process applications for the ENERGY STAR plant certification includes:

1. *Plant Award Application Letter* printed on company letterhead and signed by the corporate energy manager. Applicant should keep the original on hand for their formal certification file. The text of this letter may be pasted in an email, in lieu of providing a signed scanned copy, if it is being emailed by the person in the company who has the authority to attest to the statements in the letter.
2. *Statement of Energy Performance* validated by the PE. Applicant should keep the original on hand for their formal certification file. Note: if the PE uses an embossed seal on the Statement of Energy Performance, please shade the seal using a pencil so the mark will appear on the PDF.
3. *EPI* tab of the EPI Excel workbook if data are non-proprietary. If proprietary, the EPI should not be submitted with the application. The proprietary EPI should be sent to the EPA-designated EPI reviewers (Dr. Gale Boyd and Matthew Doolin), who will then send a signed review letter to EPA. For EPIs that adjust for weather, use the [Degree Days Calculator](https://www.energystar.gov/degreedayscalculator) ([energystar.gov/degreedayscalculator](https://www.energystar.gov/degreedayscalculator)) to determine the HDD and CDD, and include a copy in the application. Applicant should keep original EPI on hand for their formal certification file. This step is not required for petroleum refinery applications.

4. *Plant Award Specification Sheet* which tells EPA how to reference the plant, company, corporate energy manager and CEO on certification materials. A senior executive may be indicated in lieu of a CEO if desired.
5. *PE Verification Checklist*. Applicant should keep the original on hand for their formal certification file.

All application material can be found on the ENERGY STAR website (www.energystar.gov/plants), or you may request them from EPA.

EPA Application Review

Upon receipt of an application, EPA will conduct a review and make the decision on whether the plant is eligible for the ENERGY STAR plant certification. EPA will follow this procedure:

1. Review application for completeness. Contact applicant if any information is missing.
2. Perform a compliance screen to ensure the plant meets the compliance criteria in the “Determining Eligibility” section above. This process can take up to thirty calendar days. Plants are also encouraged to stay informed of their compliance status by consulting the publicly available Enforcement and Compliance History Online (ECHO) database at echo.epa.gov.
3. Ensure any other industry-specific requirements have been met.
4. Verify that an EPI score of 75 or higher is produced by the current EPI tool by using the data contained in the EPI printout, or upon receipt of a confirmation letter from an EPA-designated EPI reviewer.
5. EPA randomly selects a small sample of applications to undergo a quality assurance review before certification. In the event a plant is selected for this review, EPA will notify the corporate energy manager and Professional Engineer associated with the application prior to certification. This can involve either:
 - a. EPA emailing the Professional Engineer a set of questions asking the PE to provide additional information on the controls and checks s/he used to ensure the information submitted on the application is complete and accurate.
 - b. EPA scheduling a visit with the Corporate Energy Manager to the site where the formal site certification file is kept to confirm that the qualitative and quantitative records in the certification file align with the values that were entered in the EPI used for certification.
6. If a plant meets all requirements and has a favorable EPA review, EPA will inform the corporate energy manager of the provision of the ENERGY STAR plant certification. EPA will also inform the corporate energy manager if the plant has not met the eligibility criteria. Plants should expect to receive a decision within 45 calendar days.

Award of the ENERGY STAR Plant Certification

Award of the ENERGY STAR plant certification represents plant energy performance at the time of the application. Certified plants are awarded a congratulatory letter to the company’s CEO and corporate energy manager, a certificate of achievement, decals for identifying the plant’s certification, the option to obtain flags/banners/plaques, and listing in the ENERGY STAR certified plant [registry](#). The certification year is dated with the year the application is approved, regardless of the period ending date on the Statement of Energy Performance. Therefore, corporate energy managers are encouraged to reapply in subsequent years to earn the ENERGY STAR plant certification.

EPA Review of Records

The integrity of ENERGY STAR, its representation of energy efficiency at a national level, and the expectation of the U.S. public that EPA must uphold the impartiality of any environmental labeling effort it undertakes requires that the process for awarding the ENERGY STAR plant certification be public and transparent.

EPA reserves the right to request and review any records which support the data used to produce the energy performance score for a plant. Therefore, corporate energy managers must maintain a formal certification file for each plant for which EPA has awarded the ENERGY STAR certification. The formal certification file must be maintained for five years.

When to Apply

A plant is welcome to apply any time during the year. However, the EPA will certify a plant with the year its application is approved, regardless of the period ending date found on the plant's Statement of Energy Performance and the receipt of application.

Please note that the application must be received within one year of the Statement of Energy Performance period ending date. Note: If this is your first time applying for plant certification, we recommend contacting EPA prior to beginning the application process.

Reapplication for the ENERGY STAR Plant Certification

Plants that have been awarded with the ENERGY STAR certification are eligible to reapply one year after the ending date of their period of performance used for the prior year application. If a plant applies for recertification the following year, the plant must use the subsequent 12-month period of continuous data, unless otherwise authorized by EPA.

Where to Apply

Please remit applications electronically by sending all parts of the application package to certifiedplants@energystar.gov.

Additional Information

For further information and/or questions, please send an email to certifiedplants@energystar.gov.

FREQUENTLY ASKED QUESTIONS

If an EPI allows facilities that manufacture some products outside of those listed on the EPI, would it still be eligible for certification?

First check the Instructions tab on the EPI Workbook to see whether there are industry specific eligibility criteria. Then check to see if product in question is classified as a broader product category type or if there is an "other" product category on the EPI. If not, depending on the EPI and plant type you may be able to remove some energy from EPI. Contact EPA for further instruction. If a company adjusts any energy inputs it must explain so on its certification application. All calculations must be included in the EPI Certification File.

How should I enter data when my production and utility 12-month reporting periods do not align?

Billing (and metering) periods can vary between utilities. For example, your electric utility may bill for energy used between the 1st and 31st day of the month whereas your natural gas utility may bill for the period between the 8th of the first month and 7th of the subsequent month. For a plant that is certifying for the first time, does not submeter, and does not have utility billing cycles that exactly align, it must select the billing cycles for each utility that ensure maximum overlap. The plant should then calculate production quantities within the period used by the utility that supplied the most energy to the facility. Plants that have certified with ENERGY STAR at least once before, however, must use the utility and production periods that were used in the previous year. If the production and/or billing cycles have changed, please justify the change in period on the PE Checklist. The Period End Date on SEP should be the period end date associated with the production and the utility that provided the most energy.

If a facility has a power purchase agreement for a renewable energy and does not generate that energy onsite how should that be reflected on the EPI?

This electricity should be included in the "purchased" electricity column, not the "other" column for renewables. Electricity purchased through a PPA would incur higher transmission losses than renewable electricity generated onsite.

Are there any financial incentives for making energy improvements?

EPA does not offer or track financial incentives for energy efficiency. However, we recommend the [Database of State Incentives for Renewables & Efficiency, or DSIRE](#), which is the most comprehensive source of information on incentives and policies that support renewable energy and energy efficiency in the United States. Established in 1995, DSIRE is operated by the [N.C. Clean Energy Technology Center](#) at N.C. State University and is funded by the U.S. Department of Energy.

How do I improve my properties with low scores?

You don't necessarily have to spend money to save energy. Start with no- and low-cost improvements, and then use savings to pay for more extensive upgrades.

To improve your facilities:

- Use EPA's [Guidelines for Energy Management](#) to learn how to establish effective energy management practices focused on improving energy performance.
- Refer to the ENERGY GUIDE for your industry at www.energystar.gov/plants.
- Conduct an Energy Treasure Hunt to identify energy saving opportunities. See www.energystar.gov/treasurehunt
- Check out other resources at www.energystar.gov.

Can I apply for certification for previous years?

No. You cannot retroactively apply for ENERGY STAR certification. The year on your ENERGY STAR certification is based on the date that your application is approved, regardless of the "Year Ending" date on your application. This is true even if your score changed due to an EPA model update.

Do I need to re-apply for ENERGY STAR certification on an annual basis?

Yes. When a facility earns ENERGY STAR certification, it receives a decal containing the year in which the award was received. Similarly, facilities included on the [ENERGY STAR Registry](#) are listed with the year they received the award. Certification decals may be displayed indefinitely on qualified plants. However, recipients of ENERGY STAR certification are encouraged to continue benchmarking their plants' energy use and re-apply annually to keep their certification current.

The re-certification process is the same as the initial process.

How is my certification award year determined?

The year on your ENERGY STAR certification is based on the date that your application is approved, regardless of the "Year Ending" date on your application.

How long does it take for application review and approval?

Typically, review time for Facility ENERGY STAR certification 4-6 weeks from the time you submit your application. The first part of the application review process entails ensuring applicant facilities meet the environmental eligibility criteria explained above. Share with certifiedplants@energystar.gov your intent to apply so ENERGY STAR can begin the compliance screen. If you are uncertain about your plant's compliance record and are planning to hire a PE to conduct the verification, you may wish to first confirm that the plant meets the environmental screening criteria. To do so please send the plant's name, address, and Facility Registry Service (FRS) number (if known) to certifiedplants@energystar.gov.

Can I use heating and cooling degree days data from the weather station at our plant?

No. For ENERGY STAR certification, you must use Cooling and Heating Degree day values calculated by the ENERGY STAR Degree Day calculator available at www.energystar.gov/degreedayscalculator. The use of values from this source ensures that weather data can be easily verified and is calculated in a consistent manner across all plants applying for certification.

Does the PE who conducts the verification have to be from a firm external to our company?

No. The PE can be employee of the company applying for certification as well as the energy manager for the company. In situations where the energy manager and the PE are the same people, EPA suggests having an additional person double check the data to ensure a high level of quality control.