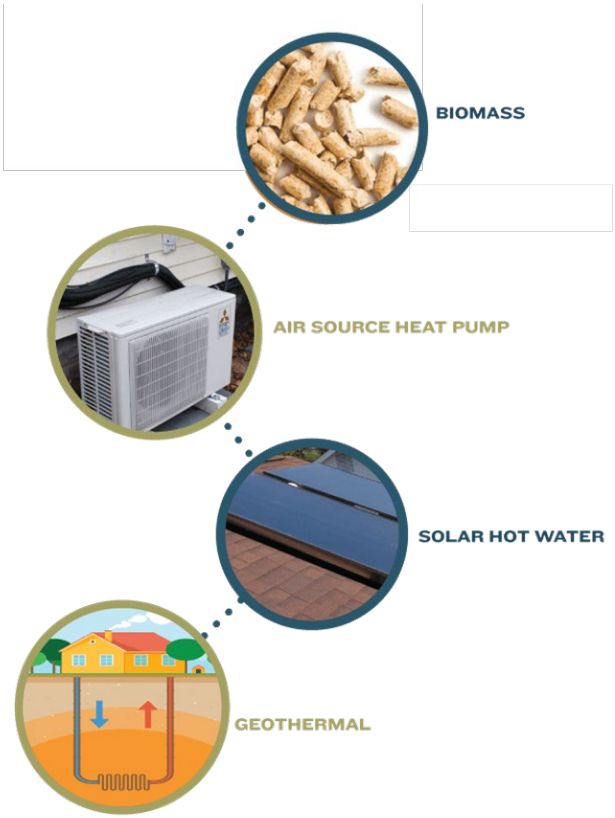
ENERGY CREDIT AGGREGATION GUIDE

This is your HCG guide to Alternative Energy Certificates (AECs). We are excited to be working with you and keeping your energy dollars in the local economy. If you have recently installed a new solar thermal, biomass, ground source heat pump or air source heat pump system then you have come to the right place.



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Program Overview

Massachusetts is investing in highly efficient, renewable heating systems as a way to move away from fossil-fuels through a new Alternative Portfolio Standard (APS) program. In this program, the Department of Energy Resources (DOER) will grant the owners of qualifying systems a certain number of Alternative Energy Credits (AECs). HCG, the only non-profit energy credit aggregator in Massachusetts, helps system owners across the state apply for and sell energy credits. AECs are available for qualifying air source heat pumps, ground source heat pumps, solar hot water systems, and wood chip/pellet boilers and furnaces.

Alternative Energy Credits (AECs) Basics

- AECs are the positive environmental attributes associated with thermal energy production.
- AECs are incentives for technologies that increase energy efficiency, reducing the need for conventional fossil fuel-based power generation.
- AECs behave like stock certificates and are sold on a market administered by MA DOER; pricing is subject to supply and demand. Small systems (typical residential-sized systems) receive a number of AECs based off of 10 years' worth of anticipated energy production.

HCG' s Role as an Aggregator

- HCG's energy credit aggregation represents thousands of homeowners, small business owners, and municipal building managers across Massachusetts, and is the only local nonprofit aggregator in the state.
- HCG sells the certificates to electricity suppliers so they can attain compliance with the Massachusetts Renewable Portfolio Standard (RPS) and Alternative Portfolio Standard (APS).
- HCG works with installers and customers, submitting applications, and administering the sale of AECs. Apart from a small broker fee, the money is returned directly to you.
- The DOER recommends system owners work with an aggregator because it simplifies the process, and HCG can help owners receive a better price for their energy credits.

General Eligibility Criteria

The facility must:

- Generate useful thermal energy using alternative heating technologies: Air Source Heat Pumps, Ground Source (Geothermal) Heat Pumps, Solar Hot Water, or Biomass Fuel.
- Be located in Massachusetts.
- Have an installation or operation date January 1st 2015 or later.

Payments

Pre-minting of AECs allows 'small' system owners to receive 10 years of AECs upfront for system operation. HCG will send out payment after your sale of credits has cleared. There is generally a 6-9 month delay from time of application to customer payment. Market rate varies, but based on current rates, HCG estimates AEC sale value by system:

Air Source Heat Pump:	$1,600 - $5,000
Ground Source Heat Pump:	$4,700 - $10,000
Solar Hot Water:	$1,100+
Biomass: (Payments received quarterly)	
$70/ton pellets	
$45/ton chips	

*Please note: Quarterly payments are made on all large APS system types.

Contact HCG to estimate the financial incentive for your specific system.

System Specifics: Air Source Heat Pumps

Air Source Heat Pumps	An air source heat pump generation unit uses compression and evaporation to transfer thermal energy from the ambient outdoor environment to a thermal load as Useful Thermal Energy.

Eligibility requirements for small air source heat pump systems

- Your model numbers must meet certain efficiency COP thresholds, and be on the DOER's list of eligible small air source heat pumps (or comply with APS standards). Please send HCG the model number(s) of your outdoor units if you would like us to see if your system is on this list of models.
- Retrofit/Replacing Existing Heating System and retaining a backup system (oil, propane, natural gas, electric resistance, etc), the air source heat pump system must:
  - Provide at least 90% of the building's heat.
  - Be able to distribute heat to all space-conditioned areas of the building.
  - The air source heat pump system's total capacity needs to be at least 50% of the capacity of any remaining heating system (at 5 degrees Fahrenheit). Please contact HCG with the model number of your outdoor unit(s), and we will let you know your air source heat pump system's capacity.
- Retrofit/Replacing Existing Heating System with no backup system: the air source heat pump system needs to supply 100% of the heat.
- New Construction: the air source heat pump system must supply 100% of the building's total annual heating load and non-renewable supplemental heat sources are prohibited.
- One application is submitted per independent system/conditioned space.

Please contact us for eligibility requirements for larger systems (over 134,000 btu/hr).

Financial Incentives for eligible ASHP systems vary on size but typically offer around $1,600+
Contact HCG if you would like an estimate for your particular system.

HCG

I will say that because of HCG, these ASHP and GSHP AEC credits have been easy for us in comparison to other programs like Mass Save and Mass CEC. Minimal paperwork is required, because HCG handles most of it and they contact me only when needing technical info. The fact that HCG works directly with our customers is a big time saver for us and we appreciate that!

– Scott Cernak, General Manager, MJ Moran Inc, HVAC Installer

System Specifics: Ground Source (Geothermal) Heat Pumps

Ground Source Heat Pumps	A ground source heat pump generation unit uses compression and evaporation to transfer thermal energy from the ambient underground or water environment to a thermal load as Useful Thermal Energy.

Eligibility requirements

- The model numbers must comply with APS standards and meet certain high-efficiency Coefficient of Performance (COP) thresholds. Please send HCG your model number if you would like us to help you determine if your system is eligible.
- The ground source heat pump system must supply 100% of a building's total annual heat load and non-renewable supplemental heat sources are prohibited.
- The system must incorporate blowers and compressors that are two-stage, multi-speed, or variable-speed drives, unless they are water-to-water units. Single-stage water-to-water systems are eligible with additional provisions.
- All wells must have a minimum depth of 150 per 12,000 btu/hr if vertically bored closed-loop systems and have at least 15 feet of separation between closed-loop bore holes.
- The system must comply with MassDEP Guidelines For Ground Source Heat Pump Wells, and Underground Injection Control Program and be installed in conformance with 313 CMR 3.00: Registration of Well Drillers and Filing of Well Completion Reports.
- Open-loop system wells must comply with MassDEP Private Well Guidelines or MassDEP Guidelines and Policies for Public Water Systems.
- Closed loop systems must be installed and tested in accordance with subsections 4 and 5 in section 1 of the "Closed-Loop/Geothermal Heat Pump Systems, Design and Installation Standards," published by the International Ground Source Heat Pump Association. Pressure testing may also be hydrostatically pressure tested in accordance with ASTM Standard F2164.

Please contact us for eligibility requirements for larger systems (over 134,000 btu/hr).

Financial Incentives for eligible GSHP systems vary on size, but typically offer $4,700 and up. Contact HCG if you would like an estimate for your particular system.

HCG

I am delighted to have HCG's help in selling my Alternative Energy Credits. The funds the credits will generate, will help to pay for photovoltaics to fuel the electric load of my new geothermal system. When I am done, I will only use energy from my rooftop or my garden. I am very happy with this arrangement.

– Susan Butler, Geothermal Customer

System Specifics: Solar (Thermal) Hot Water

Solar Hot Water	Flat plates or evacuated tubes absorb sun-light and transform it into heat which is then added to the water, and this influx of heat warms it.

Eligibility requirements

- Must use collectors to transfer solar irradiation energy to a working fluid.
- Must use a pump or fan to actively circulate the air, water or other working fluid through the collectors.
- Must have a performance certificate issued by the Solar Rating and Certification Corporation, International Association of Plumbing and Mechanical Officials, or other performance certification approved by the DOER.

Please contact us for eligibility requirements for larger systems (greater than 660 sq ft).

Financial Incentives for eligible SHW systems typically offer around $1,100 and up.

System Specifics: Biomass Fuels (Wood pellets/ Wood chips)

Eligible Biomass Fuel	An advanced wood heating boiler or furnace utilizes eligible biomass fuel to provide heat. These systems are highly efficient, with low emissions, and support the use of local fuel sources.

Eligibility requirements

- The specific model and characteristics of your system must meet all requirements of the APS, having undergone testing to an approved standard by an independent lab testing by the manufacturer. Please contact us for more information.
- Must purchase fuel from eligible biomass supplier, utilizing Clean Wood and be verifiably sustainably harvested wood products, forest-derived thinnings, residues and salvage.

Non-residential facilities with Intermediate systems (over 134,000 btu/hr) and Large systems (over 1 MMBtu/hr), please contact us to discuss the requirements for these larger systems.

Financial incentive requires quarterly reporting of Fuel Deliveries: payments based on fuel use.
Biomass generators are required to report their fuel deliveries on a quarterly basis in order to earn AECs. Timely reporting is critical to ensure eligibility. Deadlines will be provided once your system is approved, but this financial incentive is ongoing for the life of the system.

For more information, check out our website: www.hcg-ma.org/energy-credits/

Call our Energy Credit team at 413-584-1300 x9 or email: energycredits@hcg-ma.org