



Financing, Ownership Structures, & Incentives for Recycled Energy & CHP Systems

Companies and organizations evaluating whether recycled energy and combined heat and power (CHP) systems would benefit their facilities have numerous financing options, ownership structures, and incentives available to them. Facilities can own and operate their own systems, hire a third party to own and operate a system on their property, or lease a system.



Financing Mechanisms for Direct Ownership

Some facilities prefer to own and operate their recycled energy and CHP projects. Direct ownership allows the organization to take advantage of low cost of capital, tax credits and other incentives, but increases the risks associated with designing, installing and financing the system. Sources of financing for companies that want to own their energy systems include bank and institutional loans, bond issues, and loans from the [Green Colorado Credit Reserve](#), a loan loss reserve created by the

Colorado Energy Office (CEO) that provides incentives to private lenders to make small commercial loans for capital improvements that promote energy efficiency and renewable energy. Another option, [Colorado Commercial Property Assessed Clean Energy \(C-PACE\)](#), offers private lending at competitive rates for energy and water improvements. The loan is repaid through the facility's property tax bill and can transfer with the property if sold. See attached C-PACE fact sheet.

Financing Mechanisms for Third-Party Ownership

Rather than owning their energy systems, some companies prefer to lease equipment or contract with third parties who take on the financial risk and/or operations. Such indirect ownership financing mechanisms include entering into power purchase agreements and leasing equipment.

Power purchase agreements (PPAs): A PPA is a contract that allows a self-generator or independent power producer to sell electricity to a utility. PPAs are a good mechanism for industrial and commercial entities to finance CHP and recycled energy systems because they require no up-front capital investment. While self-generators can use the power on-site or sell it to a utility, third party developers in Colorado are only able to sell power to utilities—they cannot sell the electricity directly to retail customers.

Developers who specialize in energy projects can own and operate CHP and recycled energy systems on customer sites, sell the power to the local utility through a fixed rate PPA, and sell the thermal energy from a CHP system to the customer. For projects that use recycled energy or a renewable fuel, the generator can sell renewable energy credits (RECs) to the utility along with the electricity. Xcel and Black Hills have provisions in their tariffs that allow facilities smaller than 100 kW to sell electricity to investor-owned utilities without a contract.

Since only public utilities are allowed to sell electricity to customers in Colorado, an option for companies that want a third party to develop and operate their project—but also want to use the power generated on site—is to lease the system from the developer.

Lease Financing: Industrial and commercial facilities that want to use the electricity generated on their site but do not want to own their CHP or recycled energy system outright could instead lease the system from third parties who take on financial risk. Leased equipment can be operated by site personnel or third parties to reduce operational risk. Lease arrangements typically provide the lessee with the option to purchase the assets after a specific time frame or to extend the lease. There are two main forms of CHP equipment leasing: A *capital or financial lease* is an extended equipment rental that appears as an asset on the balance sheet and allows the owner to use tax credits and other incentives. An *operating lease* is an extended equipment rental similar to a capital lease except the equipment rental is treated as an operating expense rather than an asset and does not appear on the balance sheet. Benefits of leasing include reduced financial risk and option to operate it or contract with a third party operator to reduce operational risk.

Energy Savings Performance Contracts (ESPCs):

Companies can contract with a third party (energy service company, or ESCO) to take on performance risk and provide a savings guarantee. The investment is paid for by a portion of the cost savings that result from the improvements. At the end of the contract (generally 10–20 years), the customer owns the improvements.



Incentives

Tax credits, utility incentives, and grants can also help defray the costs associated with design, installation and operation of CHP and recycled energy systems.

Xcel Energy's Recycled Energy Program: Xcel offers its customers an incentive of \$500/kilowatt (kW) of recycled energy system capacity installed in Colorado. This incentive will be paid monthly over ten years at a rate of approximately \$.012/kilowatt-hour (kWh) and applies to the total recycled energy system output (up to 10 MW capacity), whether used on-site or sold to a utility or other wholesale electricity provider. Preapproval by Xcel Energy is required.¹

Colorado's Renewable Energy Standard (RES): Some recycled energy and CHP systems powered by digester gas, biomass, landfill gas, coal mine methane, or waste heat are eligible to generate renewable energy credits (RECs) to help utilities meet their RES obligations.

Enterprise Zone Tax Credits: Colorado businesses investing in renewable energy in Enterprise Zones, including recycled energy systems and CHP systems that use biomass or waste heat as their energy source, may qualify for the EZ Investment Tax Credit.

TRUE Pioneer Grant: Supports projects that reduce carbon emissions and promote renewable energy and energy efficiency in the Roaring Fork Valley (Glenwood Springs to Aspen).

The **Federal Investment Tax Credit (ITC)** allows companies to take a 10% tax credit on the first 15 MW of a new CHP system through the end of 2021 for systems less than 50 MW.

Modified Accelerated Cost Recovery System (MACRS): Companies can take accelerated depreciation of CHP investments.

See companion fact sheet—**C-PACE for CHP**

¹ The exact incentive rate will be calculated based on Xcel Energy's approved weighted-average cost of capital, which could change slightly in future years; and on an assumed capacity factor of 70 percent. The monthly payments from Xcel Energy will continue until the net present value of all the incentive payments amounts to \$500/kW. Depending on the recycled energy system's actual electricity output and hours of operation, the payments may continue for slightly less or slightly more than 10 years. Any excess electricity generated by the recycled energy system (beyond on-site needs) may be sold to a utility or wholesale provider at a negotiated rate.



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