



Hospital



University



Correctional facility



Nursing home

April 10, 2018

CHP

Combined Heat and Power

Summit

Eastern Missouri

Finance Options

Kristy Manning
Director, Division of Energy



Finance Options Available Now

\$ Energy Loan Program

\$ PACE

\$ Federal CHP Tax Credit

\$ Third Party Providers

Energy Loan Program FY2018 Cycle



\$5M available



2.75% interest rate

- Up to 10-year loan repayment
- Bi-annual payments



Eligible Entities Suitable for CHP



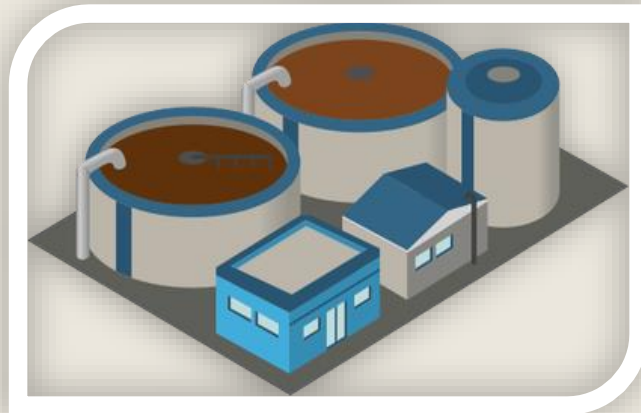
Public & Private
Not-For-Profit
Hospitals



Public & Private
Educational Institutions



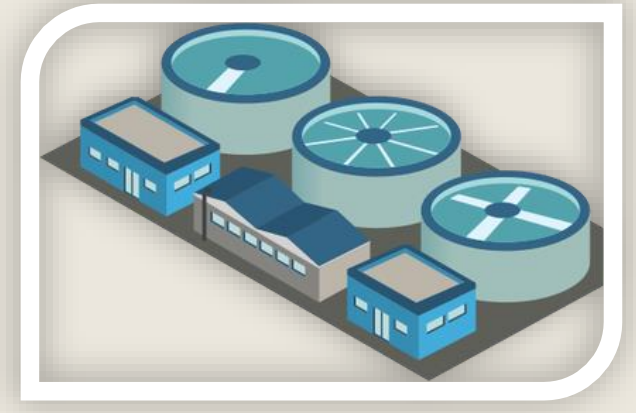
Counties



Sewer Districts



Cities



Water Supply Districts

Renewable/Distribution Energy



Biomass Boiler Systems

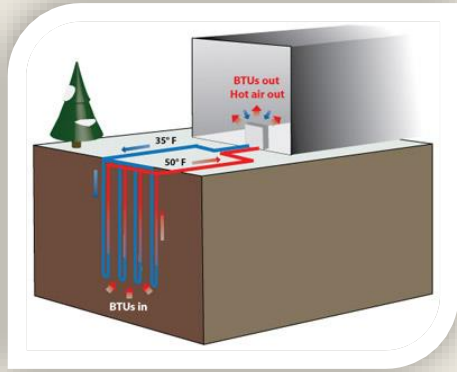


Combined Heat and Power



Solar Photo Voltaic Systems

HVAC Upgrades



Geothermal Heat Pump



Building Automation



Variable Frequency Drives



Variable Refrigerant Flow



Chiller Replacements



Cooling Tower Replacements

Lighting Upgrades



Lighting Controls



Outdoor Lighting



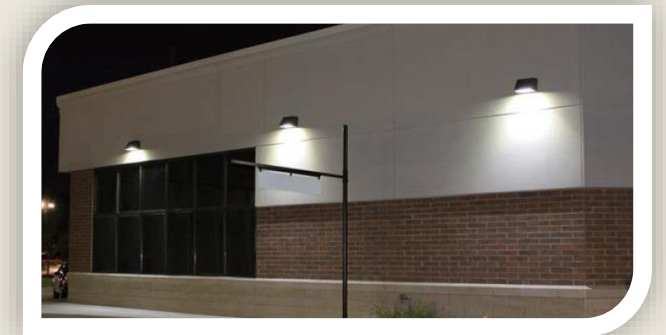
LED Exit Signs



Occupancy Sensors



Indoor Lighting Upgrades



LED Wall Pack Upgrades



Energy Loan Program Contacts

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<http://energyloan.mo.gov/>



Department of Economic Development
Division of Energy

Property Assessed Clean Energy (PACE)

- Voluntary special assessment on property tax bill
- Provide 100% upfront cost
- Fixed rate loan up to 20 years
- Annual energy savings > project cost

PACE— Eligibility

- Publicly or privately owned property
- Commercial and residential available
- New construction or retrofits
- Reduce energy consumption; build to a more resilient, higher standard

PACE— Measures

- Combined heat and power systems
- Automatic energy control systems
- HVAC systems
- Renewable energy systems, including photovoltaic, solar thermal, wind, biomass, geothermal



MCED.MO.GOV
Missouri Clean Energy District

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866-554-4083

PACE Contacts

Missouri Clean Energy District

(800) 748-9986

www.mced.mo.gov

Show Me PACE

(573) 616-1046

www.showmepace.org

Set the PACE St Louis

(314) 499-8756

www.setthepacestlouis.com

Missouri Energy Savings Program (St. Louis County)

(314) 499-8756

www.mo-esp.com



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[*www.energy.gov/savings/business-energy-investment-tax-credit-itc](http://www.energy.gov/savings/business-energy-investment-tax-credit-itc)

Federal Business Energy Investment Tax Credit

Eligibility:

- Commercial
- Industrial
- Investor-Owned Utilities
- Cooperative Utilities
- Agriculture

Savings Categories:

- Solar Water Heat
- Solar Space Heat
- Geothermal Electric
- Solar Thermal Electric
- Solar Thermal Process Heat

- Solar Photovoltaics
- Wind (All)
- Geothermal Heat Pumps
- Municipal Solid Waste
- Combined Heat & Power
- Fuel Cells using Non-Renewable Fuels
- Tidal
- Wind (Small)
- Geothermal Direct-Use
- Fuel Cells using Renewable Fuels
- Microturbines

Federal Business Energy Investment Tax Credit

CHP

- 10% of expenditures
- Up to 50 MW
- > 60% efficiency
- After 10/3/2008

Microturbines

- 10% of expenditures
- Up to 2 MW capacity
- > 26% efficiency
- \$200 per kW

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Third Party Providers

- Capable of providing a turnkey CHP system to serve a facility.
- Generally an Energy Services Company (ESCO).

Energy Service Companies (ESCOs) contract with private and public sector energy users to provide energy efficiency retrofits across a wide spectrum of sectors and facilities. ESCOs have implemented significant comprehensive energy efficiency retrofit projects over the last three decades effectively utilizing a performance-based contract business model.

Resources for Finding an ESCO

You may already be working with an ESCO because they often offer products and services common to facilities.

National Association of Energy Service Companies

www.naesco.org/

- Energy Services Coalition www.energyservicescoalition.org/
- Federal Energy Management Program list of qualified providers

www.energy.gov/sites/prod/files/2018/02/f49/doe_ql.pdf

Energy Savings Performance Contract (ESPC)

An institution enters into a contract (up to 15 years) with an ESCO which is responsible for developing and implementing an energy savings plan and installing energy efficiency upgrades.

The resulting energy savings are used to pay for the upgrades over time.

ESCO guarantees the projected energy savings and provides ongoing reports verifying the actual savings

www.energy.gov/sites/prod/files/2017/05/f34/ESPC_DBF.pdf

Energy Service Agreements (ESA)

- Pay-for-performance, off-balance sheet financing solution that allows customers to implement energy efficiency projects with zero upfront capital expenditure.
- ESA provider pays for all project development and construction costs.
- Once a project is operational, the customer makes service charge payments for actual realized savings.
- The price per unit of savings is a fixed output-based charge that is set at or below a customer's existing utility price, resulting in immediate reduced operating expenses.

<https://betterbuildingssolutioncenter.energy.gov/sites/default/files/news/attachments/RILA%20ESA%20Primer.pdf>

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Sector Entities	Number of Energy Loans	Loan Amount	Annual Savings
Colleges/Universities	18	\$10,310,302	\$1,513,198
Hospitals	13	\$6,147,114	\$898,274
Local Governments	160	\$19,839,595	\$3,099,784
Others	2	\$85,199	\$28,391
Public Schools	405	\$70,446,589	\$10,160,120
Total	598	\$106,828,799	\$15,699,767