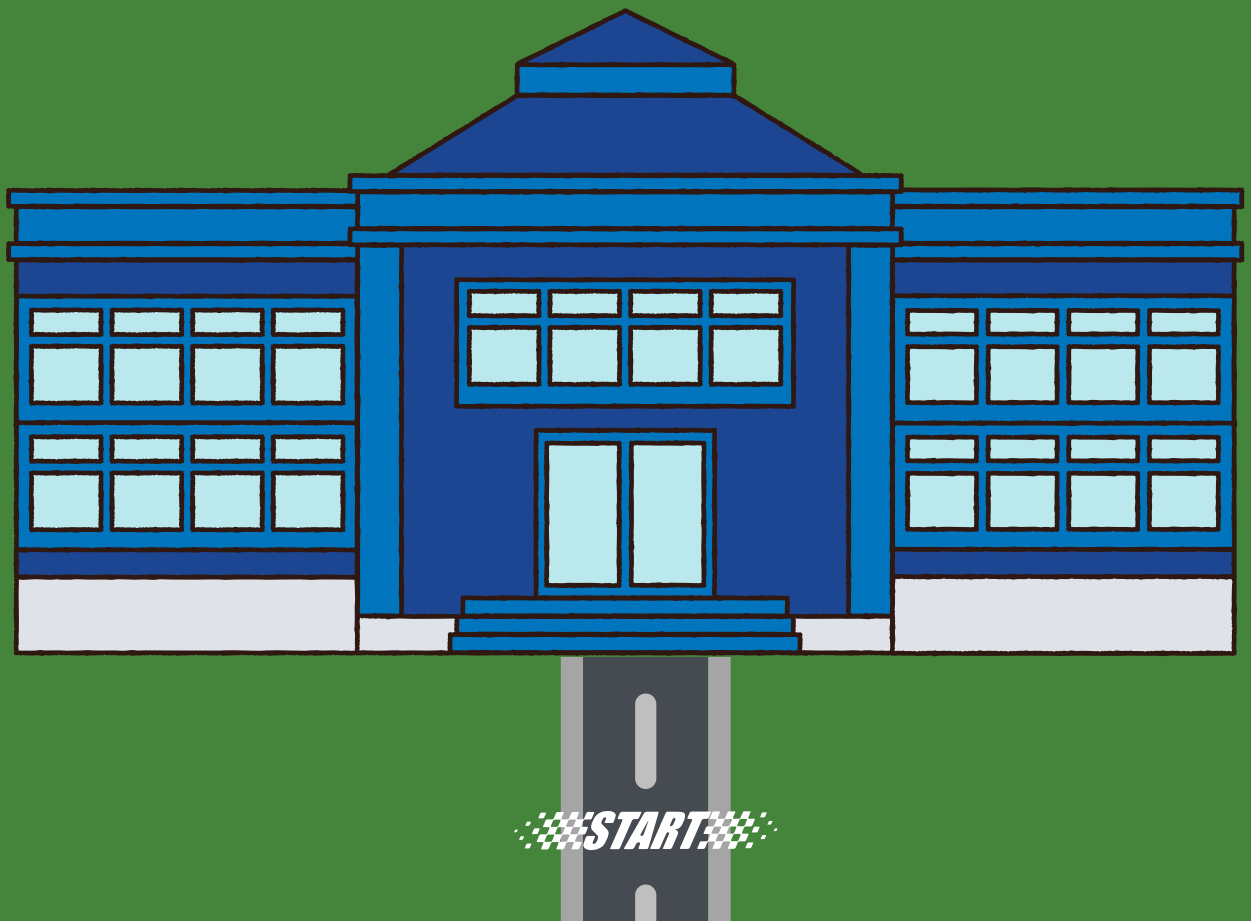
Industrial Assessment Center
U.S. DEPARTMENT OF ENERGY

U.S. DEPARTMENT OF ENERGY
Energy Efficiency & Renewable Energy

Guide to Energy Efficiency:

Community Center

Do you want to make your building more energy efficient, but you don't know where to start? This guide will provide a list of commonly identified commercial building projects and a framework for finding funding resources.



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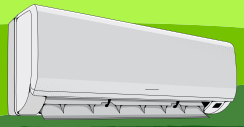
Roadmap Towards Efficiency

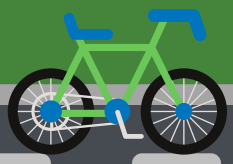
Insulation
Leaks & holes
Shade or tinting
Window glazings

BUILDING ENVELOPE



Economizers
More efficient models
Set points
Shade or tinting
Destratification fans

SPACE CONDITIONING



START

Sensors
Placement
Level reduction
Higher efficiency bulbs

LIGHTING

Timers & Scheduling
Building automation systems
Smart thermostats

OPERATIONS & CONTROLS

Solar Energy
Combining Meters

MISCELLANEOUS

ENERGY EFFICIENCY

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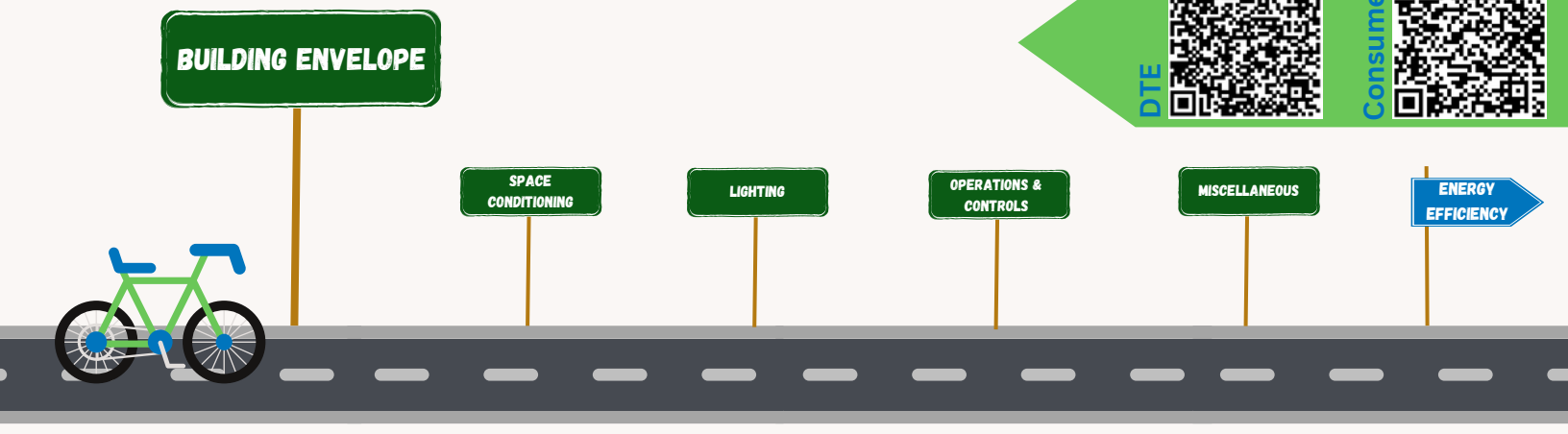
Building Envelope

Assessment Recommendations	Avg Cost	Avg Savings	Avg Payback Period
REDUCE HEAT GAIN BY WINDOW TINTING	$4,097.88	$3,108.11	1.3 yrs
CLEAN OR COLOR ROOF TO REDUCE SOLAR LOAD	$14,379.20	$7,217.20	2.0 yrs
CLOSE HOLES AND OPENINGS IN BUILDING SUCH AS BROKEN WINDOWS	$176.59	$1,882.84	0.1 yrs
USE DOUBLE OR TRIPLE GLAZED WINDOWS TO MAINTAIN HIGHER RELATIVE HUMIDITY AND TO REDUCE HEAT LOSSES	$61,496.67	$5,549.17	1.9 yrs
INSTALL VINYL STRIP / HIGH SPEED / AIR CURTAIN DOORS	$5,031.33	$2,678.63	11.1 yrs

Rebates/Incentives

DTE Consumers



*Source: IAC Database, Criteria: all centers, >=2013, NAICS 54,55,61,62,71

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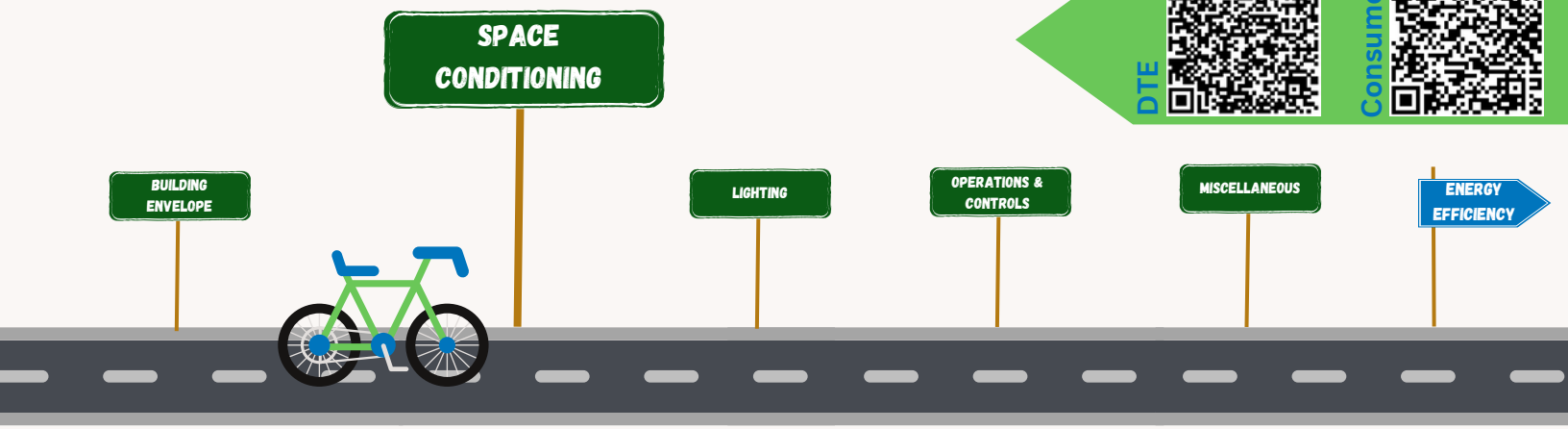
Space Conditioning

Assessment Recommendations	Avg Cost	Avg Savings	Avg Payback Period
CLEAN AND MAINTAIN REFRIGERANT CONDENSERS AND TOWERS	$1,096.93	$4,901.68	0.2 yrs
LOWER TEMPERATURE DURING THE WINTER SEASON AND VICE-VERSA	$1,827.22	$9,199.48	0.2 yrs
REDUCE SPACE CONDITIONING DURING NON-WORKING HOURS	$8,460.77	$3,587.07	2.4 yrs
INSTALL OUTSIDE AIR DAMPER / ECONOMIZER ON HVAC UNIT	$15,677.60	$12,466.94	1.3 yrs
INSTALL TIMERS AND/OR THERMOSTATS	$1,007.53	$11,510.32	0.1 yrs

Rebates/Incentives

DTE

Consumers



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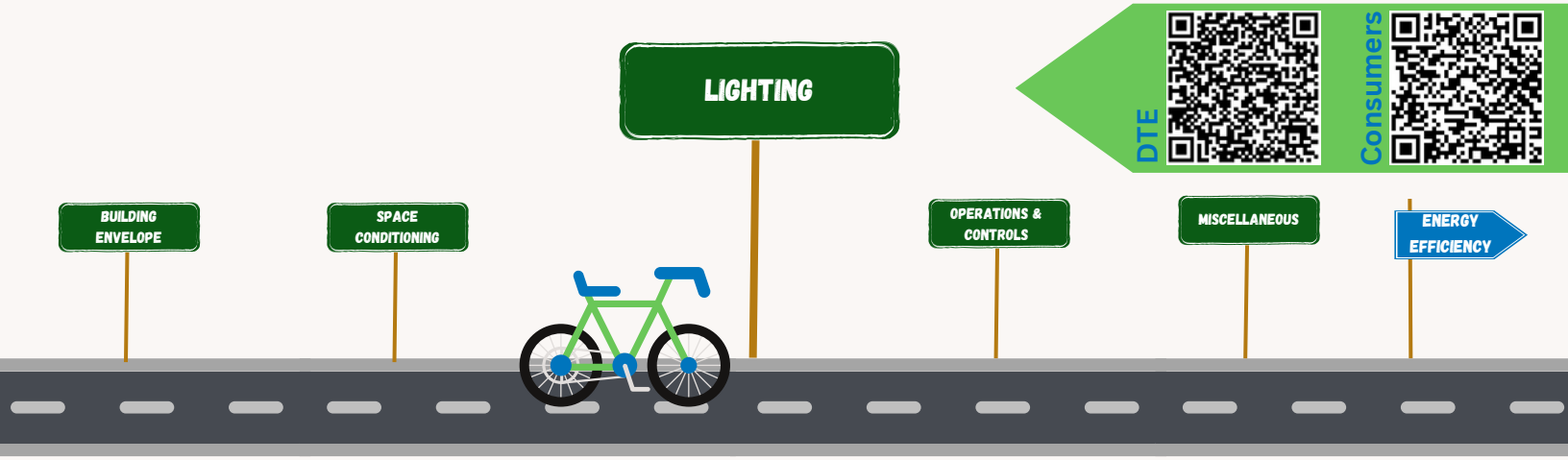
Lighting

Assessment Recommendations	Avg Cost	Avg Savings	Avg Payback Period
REDUCE ILLUMINATION TO MINIMUM NECESSARY LEVELS	$665.00	$1,757.34	0.4 yrs
MAKE A PRACTICE OF TURNING OFF LIGHTS WHEN NOT NEEDED	$60.00	$17,199.00	0.0 yrs
USE PHOTOCELL CONTROLS	$671.86	$687.14	1.0 yrs
INSTALL OCCUPANCY SENSORS	$1,417.46	$1,751.25	0.8 yrs
UTILIZE HIGHER EFFICIENCY LAMPS AND/OR BALLASTS	$15,933.11	$7,341.68	2.2 yrs

Rebates/Incentives

DTE Consumers



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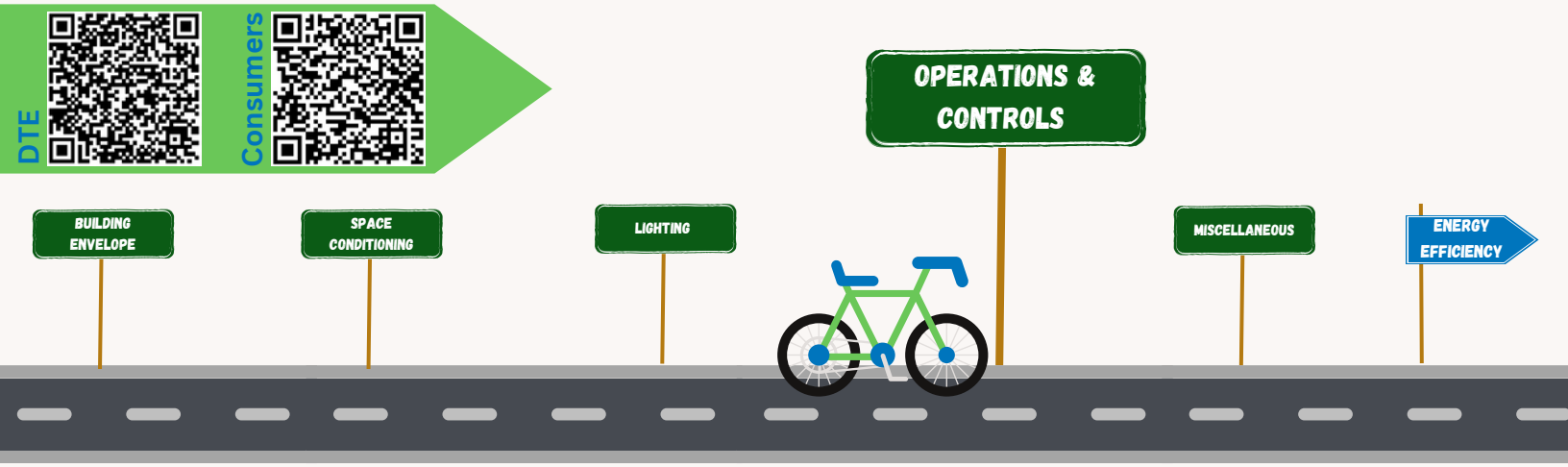
Operations & Controls

Assessment Recommendations	Avg Cost	Avg Savings	Avg Payback Period
CONSERVE ENERGY BY EFFICIENT USE OF VENDING MACHINES	$1,119.50	$716.95	1.6 yrs
TURN OFF EQUIPMENT DURING BREAKS, REDUCE OPERATING TIME	$214.00	$1,092.00	0.2 yrs
TURN OFF EQUIPMENT WHEN NOT IN USE	$435.47	$2,470.30	0.2 yrs
UTILIZE CONTROLS TO OPERATE EQUIPMENT ONLY WHEN NEEDED	$450.50	$3,282.42	0.1 yrs
INSTALL SET-BACK TIMERS	$142.76	$4,436.01	0.0 yrs

Rebates/Incentives

DTE Consumers



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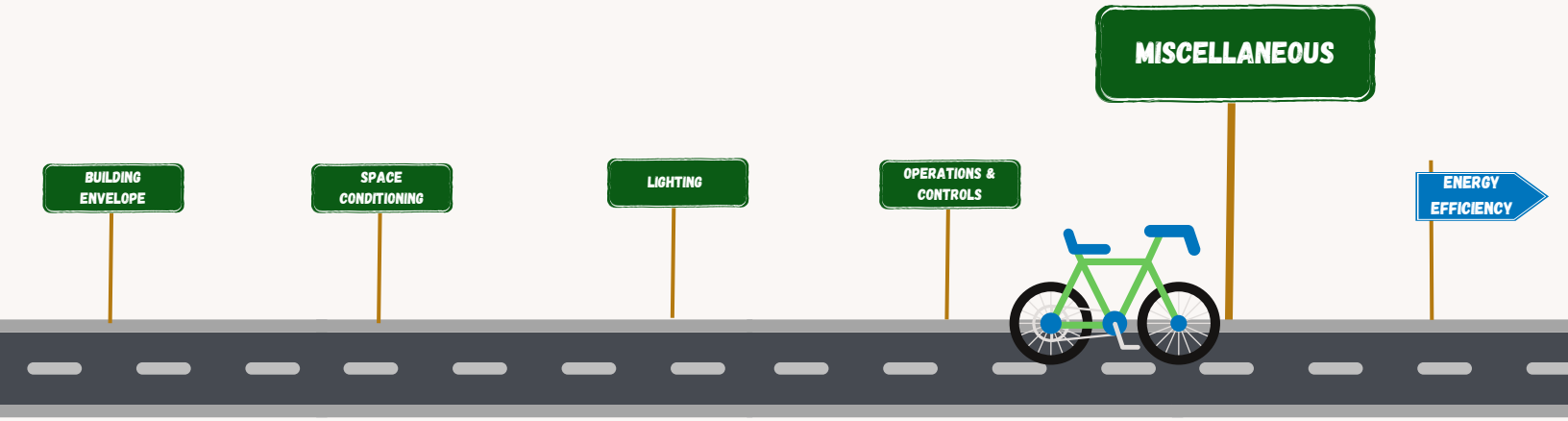
Roadmap Towards Efficiency

Miscellaneous

Assessment Recommendations	Avg Cost	Avg Savings	Avg Payback Period
INSULATE BARE EQUIPMENT	$837.97	$3,207.30	0.3 yrs
USE OR REPLACE WITH ENERGY EFFICIENT SUBSTITUTES	$12,163.11	$4,637.20	2.6yrs
COMBINE UTILITY METERS	$435.47	$3,800.00	0.0 yrs
CHANGE RATE SCHEDULES OR OTHER CHANGES IN UTILITY SERVICE	$105.00	$29,512.33	0.8 yrs
USE SOLAR HEAT TO MAKE ELECTRICITY	$231,050.71	$13,883.57	16.6 yrs



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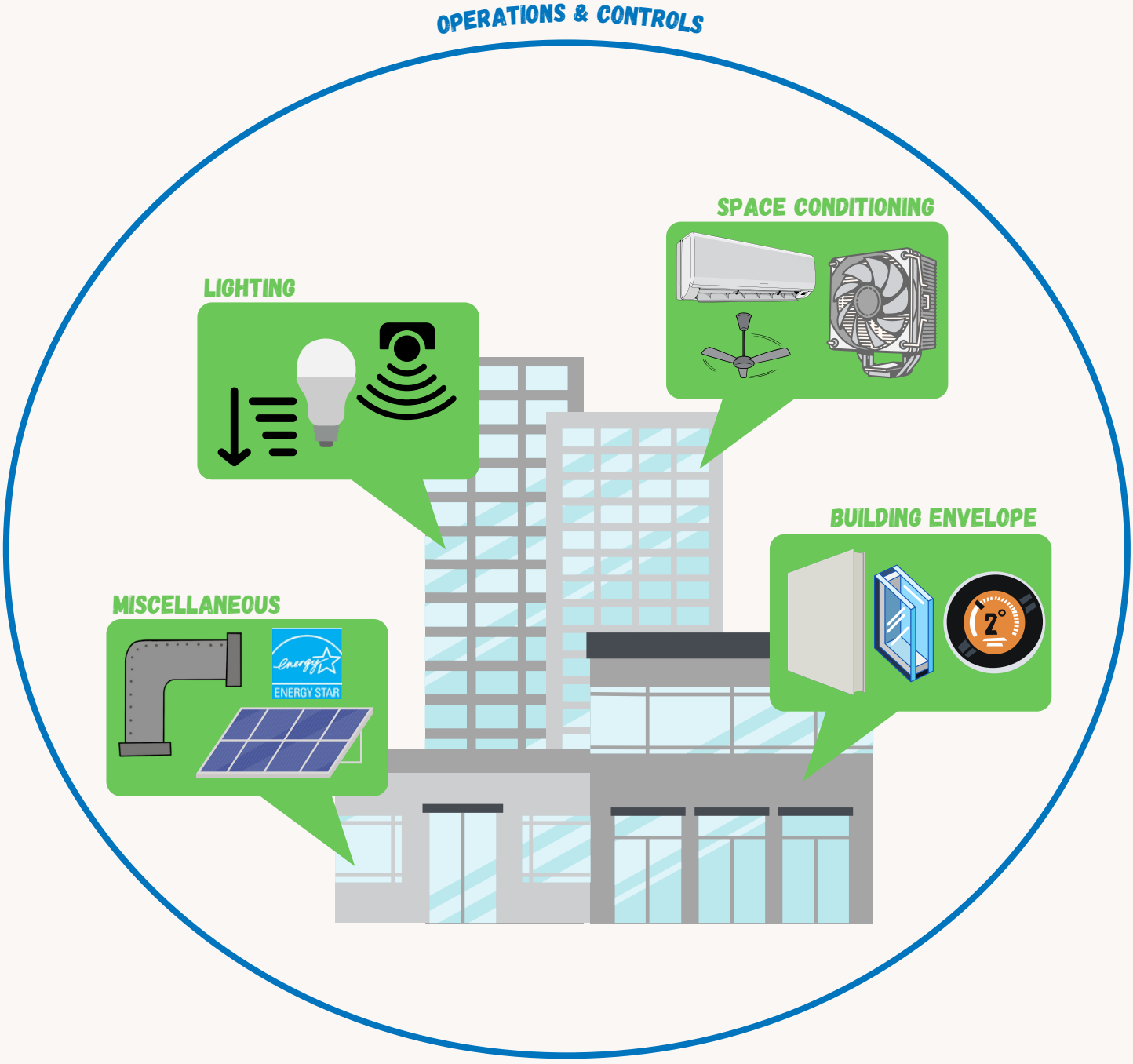
Summary

There are many projects that promote energy efficiency, but here is a reminder of common systems with major opportunities in commercial buildings.



*Others to consider are motor, thermal, and combustion systems, which may include pumps, boilers, furnaces, and ovens etc.

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Where to find funding?

Funding is available to assist in your path towards energy efficiency. Below is a framework for identifying such opportunities from both private and public entities.

Utilities	Organizations	Government
Building type (commercial)	Nonprofits	Local/state/ federal

Databases of funding opps.	Department programs	Initiatives	New legislation
grants.gov, energystar.gov, lists on indiv. dept. websites...	DOE, EPA, EGLE, and more (i.e. housing, econ. dev., small business...)		IRA, BIL...

Rebates | Grants | Loans | Tax credits

Consider filtering searches by project type and funding mechanism

- Energy Star Rebate Finder
- Consumers
- DTE
- EnergyStar Commerc. Rebates
- EGLE
- Michigan Saves
- DSIRE