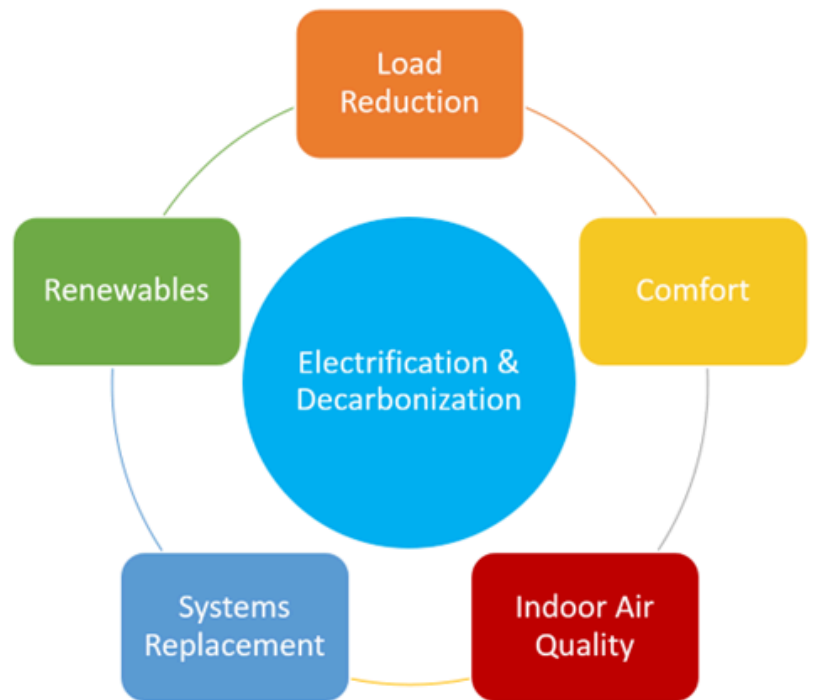


# DECARBONIZATION AND ELECTRIFICATION

Decarbonization and electrification are critical steps in reducing greenhouse gas emissions and moving towards a more sustainable future. However, these processes are more complex than simply replacing gas-fired equipment with electric alternatives. While this transition can help reduce carbon emissions, it often leads to increased utility costs and potential discomfort for residents, as gas-fired systems and electric systems produce different heating and cooling experiences.



New Ecology recommends a comprehensive, five-pronged approach: load reduction, indoor air quality, comfort, systems replacement, and renewables. The process begins by reducing electrical load through measures like LED lighting and Energy Star appliances, making room for future system upgrades. Enhancing insulation and air sealing improves comfort and reduces energy demand, while updated ventilation systems maintain indoor air quality. Solar PV and other renewable energy sources can further offset the energy needs of new electric systems. Replacing gas-fired equipment becomes feasible after these preparatory steps, ensuring decarbonization without compromising comfort.

This detailed checklist covers key questions and considerations such as load reduction, indoor air quality, comfort, HVAC equipment, and renewable energy, guiding owners through crucial assessments before embarking on decarbonization efforts.

## Load Reduction

- What is the existing electrical infrastructure at the property? What is the current electrical load?
- What percentage of in-unit, common area, and exterior lighting is LEDs? What percentage of common area and exterior lighting have controls?
- Are your appliances – refrigerators, dishwashers, cooktops, washers, and dryers – Energy Star certified? If not, what is their expected end of useful life? When is the lease for the washers and dryers set to be renewed?
- Is domestic hot water piping insulated?
- Are water fixtures – bathroom faucets, toilets, and showerheads – low flow, or WaterSense certified? If not, are there currently any known leaks or difficulties with existing fixtures?
- Are the thermostats manual or programmable?

## Indoor Air Quality

- Are there any concerns with pests or moisture control in your properties? Consider all possible health and safety issues that could be exacerbated through the proposed renovations/upgrades.

## Comfort: Air Sealing and Insulation

- What insulation is present in your building? Where is it, and what is its R-value?
- What air sealing has been done in the building? Where is it, and how was it done?
- How old are the windows in the building? Are they single, double, or triple pane?

## HVAC Equipment

- What equipment is currently being used to heat in-unit spaces? How old is it?
- What equipment is currently being used to cool in-unit spaces? How old is it?
- What equipment is currently being used to condition common spaces? How old is it?
- What equipment is currently being used to provide in-unit hot water? How old is it?
- What equipment is currently being used to provide common area hot water? How old is it?

## Renewable Energy and Resiliency

- Has the building ever been evaluated for solar PV? Can the roof space structurally support the additional of solar PV? If not, are there other locations on the property where solar could be installed (eg: a parking lot)?
- Is there a space in your property that could be used as a resiliency hub during extreme events? Is there a backup generator?

