Frequently Asked Questions

Beneficial Electrification

What are the primary benefits of beneficial electrification?

Each project is different, but the benefits of electrification may include lower operating and maintenance costs, improved public health, reduced environmental impact, grid resiliency, and protection from the volatility of fossil fuel prices.

Why is this campaign focused on buildings and vehicles?

Buildings and vehicles are our region's primary sources of harmful greenhouse gas emissions.

Can our grid handle the increased demand for electricity that switching to electric vehicles and heating systems would require?

The transition to all-electric buildings and vehicles won't happen overnight. There is current capacity on the grid for an increase in demand, and as demand grows, our local utility companies will be working diligently to build a more robust and resilient grid. RG&E, one of our area's largest energy suppliers, has invested significantly in its electric system in recent years and will continue to make investments in the future that contribute toward meeting the growing needs of beneficial electrification, such as electric vehicles and electric heating. Investments that enable growth will continue to be a focus of planned development.

Can my small business afford to make a transition to beneficial electrification?

Incentives, tax credits, and finance options are available to any organization no matter the size of its employee base, building footprint, or number of vehicles. Ever-changing technology is driving costs down at a rapid pace. And the transition doesn't have to be all or nothing. Even small changes such as adding one heat pump, converting to one electric vehicle or adding a charging station for your employees or customers can help make a difference in our community.

Will the increased demand for electricity lead to the construction of more power plants that burn fossil fuels, thereby undermining our region's effort to reduce harmful emissions?

This is unlikely to happen, given that the price of producing electricity from renewable sources (solar and wind) is now cost competitive with fossil fuels and getting cheaper all the time. But since it isn't impossible, individuals and organizations who want our region to successfully transition to clean energy should support the development of renewable energy projects and vigorously oppose new fossil fuel projects.

If we rely on electricity to meet all our energy needs, won't we be in big trouble when the power goes out?

This is a tricky question that deserves a nuanced answer. In the case of building heating systems, you'll typically be without heat during a power outage regardless of what type of system you have, because both heat pumps and combustion furnaces require electricity to run. Similarly, both gas stations pumps and EV charging stations require electricity, so you'll be able to drive until your EV runs out of charge or your combustion engine vehicle runs out of fuel, but after that, you'll need to find a backup power source. Since climate change leads to an increase in extreme weather events that sometimes result in power outages, one of the best things we can do to reduce our vulnerability to power outages is to eliminate the use of fossil fuels that damage our climate. Utility companies have an important role to play in decreasing the frequency and severity of power outages through infrastructure investments that improve resiliency and reliability. RG&E, one of our region's largest energy providers, has invested significantly in its electric system in recent years and will continue to make investments in the future that contribute toward meeting the growing needs of beneficial electrification, such as electric vehicles and electric heating. Investments that enable growth will continue to be a focus of their planned development.

In addition to electrifying our buildings and fleets, what other sustainability measures should organizations and individuals prioritize?

Every business and household is different, so there's no simple answer to this question, but as a general rule, it makes sense to focus on reducing waste and energy use. After all, the cheapest, cleanest form of energy is the energy you never use!

Frequently Asked Questions

Building Electrification

I've heard that heat pumps won't work in our region. Is that true?

No. It used to be true that air-source heat pumps couldn't handle our cold winter weather, but heat pump technologies have improved dramatically, and now there are "cold climate heat pumps" that are specifically designed to work effectively in climates like ours, though their efficiency does decrease on very, very cold days. Ground-source heat pumps (i.e., geothermal systems) have always worked well in our region.

What's the return on investment (ROI) on a heat pump? How long will it take for the system to pay for itself?

Every building is different, and energy prices can fluctuate dramatically so each situation has a unique ROI. To determine your ROI you will need to sign up for an energy assessment and get a quote from one or more heat pump installers. Also, keep in mind that excellent incentives and financing options are currently available, and operation and maintenance costs are typically low, so even if the initial investment seems high, a heat pump may still give you a favorable return.

Don't you need a big open space to install a geothermal system?

Not necessarily. There are four kinds of geothermal systems, each with different space requirements. Vertical systems are typically most appropriate for dense urban areas, because they can be installed in small yards, or under driveways and parking lots. Not all properties are suitable for geothermal, but you shouldn't rule yours out until you've had a qualified professional take a look.

What does it mean to be "heat pump ready"?

For a heat pump to be properly sized and function effectively, you'll first need a tight building envelope, or in other words, your need insulation and air-sealing.

Our building uses an electric resistance system for heat/hot water/etc. Does that mean we've successfully gone all electric?

Though they do run on electricity, electric resistance systems are typically inefficient and expensive to operate. Modern heat pumps are a much better option for most applications.

Why do we need to stop using natural gas? I thought it was an environmentally friendly option.

Like oil and coal, natural gas is a fossil fuel that causes harmful greenhouse gas pollution. Though natural gas emits less carbon dioxide than other fossil fuels when burned, natural gas is mostly methane, a highly potent greenhouse gas, which routinely escapes into the atmosphere during extraction and transport processes. Because methane is so potent and widely used, small leaks add up to big problems. Even if we could completely eliminate the leaks, burning natural gas would still produce CO2, a greenhouse gas, so it can never be a zero-emissions energy source. To mitigate the threat of climate change and achieve the goals of NYS's Climate Leadership and Community Protection Act, we need to achieve net-zero emission by 2050, which means discontinuing our use of fossil fuels in all but the most difficult to electrify applications. To help people understand this, many experts are moving away from using the term "natural gas," in favor of calling it "methane," "fossil gas," or "fracked gas" instead.

Frequently Asked Questions

Electric Vehicles (EVs)

Don't electric vehicles cost a lot more than their combustion engine counterparts?

That used to be the case but EV prices have come down dramatically in recent years and that trend will continue as more auto manufacturers are committed to producing EVs. And with incentives and tax credits the cost differential can become negligible, especially when considering the much lower lifetime costs of operating EVs. Direct purchase and leasing programs exist, giving you flexibility to choose financing that fits your organization.

Is it more difficult to service an EV?

EVs are inherently more reliable and require less maintenance due to fewer mechanical parts. Annual inspections and tire maintenance are the only regularly scheduled service requirements. Given the popularity of EVs, most auto service businesses have EV trained staff and organizations who service their own fleets have successfully trained their service staff.

Isn't the number of EV models available too limiting for transitioning my fleet to EVs?

There are a number of EV options that support light duty vehicles traveling 200-250 miles during the course of a day and fast charging extends that range. Medium duty trucks, school buses and public transportation buses are also in production and in use in some communities.

I don't use a fleet in my organization. Is there something I can do to support the transition to EVs?

Consider installing charging stations for your employees and customers. That's a great way to show that you support the transition to EVs.

How long does it take to charge my vehicle?

Charging time depends on the size of the vehicle's battery and the level of charging. Some vehicles are charged on regular 120V outlets with the standard cable that comes with the EV and can fully charge an EV in 8-20 hours. EVs can also be charged at Level 2 stations, which are 240V. At a Level 2 station most vehicles will be fully charged in 4-10 hours. Many fleets use Level 2 charging for more highly utilized vehicles. A third level of charging is commonly known as DC Fast Charging, which are 480V, and will charge some EVs to 80 percent in roughly 30 minutes.

Doesn't the creation of EVs and their batteries produce carbon emissions such that they are no better than their combustion engine counterparts?

While it is true that the manufacturing of EVs and lithium ion batteries creates carbon emissions, the total lifetime greenhouse gas emissions of an EV, battery included, is still lower than its combustion engine counterpart even when considering manufacturing emissions.

Aren't EV batteries going to create a landfill problem?

No. Most EV batteries are made with lithium and the batteries are not sent to a landfill. The lithium is recycled through e-waste management processes.

What happens if my vehicle runs out of charge?

Due to the expanding availably of charging stations and apps that tell EV drivers where EV charging stations may be found, the risk of running out of a charge is minimal for the typical EV driver. In the unlikely event that this happens, there are mobile charging options becoming available for road service.

How much does it cost to install a charging station?

There are several variables that affect the cost of charging station installation and these include the level, type and complexity of the station as well as the costs for site preparation and installing the electrical conduit and related components. Given the unique characteristics of each project, it is really necessary to have the project evaluated by an EV charging professionals to determine a project cost estimate.