

Steps to Begin Breaking Your Dependence on Fossil Fuels

As aggressive climate plans prompt states like California to call for reduced emissions, commercial and industrial organizations are increasingly shifting their business goals to include a reduction of reliance on fossil fuels. But in order to successfully achieve these goals, some key considerations must be taken into account.

“A handful of preliminary steps will help ultimately reduce fossil fuel dependence,” says George Sakellaris, President and CEO for Ameresco. “Many solutions that provide for a low-carbon future exist. It’s a matter of making a commitment to such reductions and then taking actionable steps to achieve those commitments.”

Sakellaris suggests these three steps to beginning to break your dependence on fossil fuels.

Step #1. Understand first, then reduce your consumption

“The first step is simple but not necessarily easy,” says Lou Maltezos, EVP, Ameresco. “Begin by exploring how much energy you use and how much you could reduce dependence just based on smarter energy use.”

Examine energy use across facilities, monthly utility bills, building usage, and equipment performance. Then look for potential opportunities to reduce usage.

These opportunities might include projects like:

- Equipment upgrades
- Advanced metering infrastructure
- Systems like ventilation and HVAC, building envelope, lighting, controls, boilers and chillers, and water fixtures

“The right efficiency measures can reduce consumption and costs by up to 45% without sacrificing performance or occupant comfort,” says Maltezos.

Step #2. Consider the source

“Get to know the details around your own energy usage and the tools available for reduction and/or renewable options,” suggests Britta MacIntosh, SVP, Ameresco. For example, the EPA, US Green Business Council, and the US Department of Energy all offer free tools to understand and manage energy use.

Understand what’s possible, then explore renewable resources, including options like onsite or community solar, thermal energy, combined heat and power (CHP), and energy storage.

“It’s important for organizations to diversify their energy portfolio with both intermittent and firm energy supply sources, since they often need renewable energy even when the sun isn’t shining,” says MacIntosh.



Projects can be designed in an almost endless variety of ways. Here are a few:

- A leading financial services corporation installed 30 MW of onsite ground-mount and carport solar to multiple locations to meet energy goals, improve grid resilience, generate tax revenue, and enhance the environment for employees.
- A Hawaii resort's central plant upgrades and new cooling system reduced energy consumption by 45%, contributed to the state's carbon neutrality goals, and enhanced occupant comfort.
- A major car manufacturer brought landfill gas to power its plant with turbines that generate 50% of its energy needs while reducing approximately 92,000 tons of carbon emissions annually.

Step 3. Optimize your usage and measure progress

"Consider control tools, then measure usage and refine your energy program," says Nicole Bulgarino, EVP, Ameresco.

Controls are readily available for a wide spectrum of use cases, including everything from LED lighting controls and occupancy controls to full operation microgrid controls for distributed generation systems.

Then measure your reduction efforts, make adjustments, and re-establish energy goals, Bulgarino suggests. "This should not be a 'set it and forget it' approach," she says. "Technologies and processes will inevitably advance over time, whether that's increased equipment efficiency, optimized energy generation, innovation for carbon reduction, or operational experience for load management. It's critical to regularly review plans and reduction strategies to ensure optimal performance."

For example, one major league baseball stadium upgraded field lighting with LED fixtures and controls, improved HVAC and plumbing systems, and installed submeters to analyze assets in real time and during peak use of the stadium. The savings were tracked through measurement and verification, with adjustments made to continually improve performance. The project resulted in enhanced field lighting and system performance while generating operational and energy cost savings.

"Digitalization of energy systems allow for measurable energy consumption, generation, and therefore reduction in emissions," says Bulgarino. "Ultimately, this allows for progress towards eliminating dependence on fossil fuels." 

