Energy and Water Efficiency Checklist for Vehicle Dealerships

ENERGY STAR for Commercial Buildings

Grab a clipboard and take this checklist along as you discover opportunities to increase energy and water efficiency at your vehicle dealership. Focus on uncovering opportunities to save. When you find something, make notes about location, tools, materials, expertise, needed, or further research required. Feel free to add to or modify this list to suit your own needs.

1 Facility Management and Benchmarking

- ❑ Managing costs starts with knowing your baseline use, from which to track savings. Start by printing the Data Collection Worksheet for "Vehicle Dealership" found under "Retail". This lists all you need to benchmark your property in the free, online Portfolio Manager® tool for tracking energy, water, and recycling/materials management.
- ❑ Next, create your account in Portfolio Manager.
- ❑ Learn more and find all Portfolio Manager training and tech support.
- ❑ Some Vehicle Dealerships use waste oil from their oil changes (or purchased waste oil) as fuel to heat their buildings. If your dealership uses waste oil for heating, it needs to be accounted for in Portfolio Manager. This FAQ provides details on how to track this energy source. After you enter energy data in Portfolio Manager, your dealership will receive an ENERGY STAR score from 1 - 100 that shows your energy use efficiency and allows you to compare your property to other U.S. vehicle dealerships. A 75 or higher score is eligible for ENERGY STAR certification.
- ❑ Educate and encourage employees to report leaks, turn off lights not in use, recycle and support your environmental stewardship efforts.
- ❑ Make it easy for customers to take simple actions in support of your energy efficiency and waste reduction efforts by offering, for example, recycling in the customer waiting area.

ENERGY STAR® Portfolio Manager®

GREEN DEALER SUPPORT

EPA United States Environmental Protection Agency

- ❑ Adopt a purchasing/procurement policy that specifies ENERGY STAR, WaterSense® and Safer Choice® labeled products when applicable.

Lighting

- ❑ Evaluate the opportunity to upgrade to more energy-efficient lighting options:
  - ❑ Upgrade incandescent and CFL bulbs to LED (especially for task lighting or specialty/decorative applications). This will save money and improve safety and durability. Solid state LED lights are resistant to impacts.
  - ❑ Replace T12 fluorescents and obsolete magnetic ballasts, ideally with tubular LEDs (TLEDs). Retain existing T8s or T5s with electronic ballasts through their useful life.
  - ❑ Recycle/dispose of all fluorescent tubes/CFLs and magnetic ballasts at a lighting or building supply store.
- ❑ During daytime and evening hours, identify where lights have been left on in unoccupied spaces (including offices, restrooms, storage, hallways, etc.).
- ❑ During the day, look for "day-burners" – that is, exterior and parking lot lighting that is on and should only be on at night, and which has a failed or dirty light sensor.
- ❑ If upgrading your exterior lighting, consider shielded fixtures to direct the light where needed and reduce light pollution.
- ❑ Identify and assess opportunities to use automated lighting controls:
  - ❑ Occupancy/motion sensors for low-traffic areas.
  - ❑ Timers or daylight sensors to turn off exterior and parking lot lights during the day.
  - ❑ Dimming controls in locations where natural lighting (e.g., near windows, skylights, light tubes) can temporarily supplement or replace fixture lighting.

TIP:

For typical dealerships/ distributors, the highest electricity-consuming lights are often 250W-1000W metal halides installed in the showroom and service department. Therefore, replacements or retrofits of these lights with LED lighting greatly reduces energy consumption.

- ❑ Motion Detecting: Motion detectors may be installed on the building façade and pole lights to allow security lights to remain off or at lower levels until motion is detected in the area. This active control mechanism can significantly deter theft and vandalism, especially when coupled with cameras or other security measures.

- ❑ Confirm that lighting controls are installed to "see" what they must and are operating as intended.
- ❑ Assess cleanliness of lamps/fixtures (dust, bugs, any debris) and the need to institute a regular cleaning plan for maximum light output.
- ❑ Identify where reflectors can be practically added to amplify existing lighting.
- ❑ Consider purchasing an inexpensive light meter (under $30) to assess whether any areas are over-lit, compared to requirements or design levels.
- ❑ Consider opportunities for de-lamping, and de-energize and/or remove ballasts that are not in use.
- ❑ Review ENERGY STAR product information, calculators, and find local retailers and rebates; and find lighting, fans, and more lighting facts.

Building Envelope

- ❑ Inspect doors and windows to identify gaps or cracks that can be weather-stripped, caulked, or filled with foam insulation.
- ❑ If in the market for new windows, consider high-efficiency options that have earned ENERGY STAR certification – such as double paned windows. These may cost more up front but offer reasonable payback.
- ❑ Try to keep closed doors to the outside and to any unheated or uncooled areas.
- ❑ Bay doors open and close dozens of times a day, increasing heating and cooling loads. Train employees not to leave them open for long periods of time. Replace missing, cracked, or hardened seals to minimize air infiltration. For new doors, specify interior and exterior

TIP:

Consider an "all utility audit" to look for billing errors and proper rate classification for electricity, natural gas, heating oil, water/sewer, and telecommunications. The auditing firm is paid a pre-agreed percentage only after your refund is complete. If there is no refund due, you have confirmed you are not overpaying.

thermal breaks and R-10 or greater. Consider automatic sensor-driven bay door actuators to ensure quick closure after vehicles or persons enter or exit. Newer high-speed units safely close doors in a fraction of the time older units take.

- ❑ Consider that white, reflective paint or a cool roof can significantly reduce heat gain and extend the life of some roofing.
- ❑ Consider installing solar film, awnings, vegetation, or insulated curtains for east and west windows to block summer heat gain. Ensure solar gain in the winter through south-facing windows. Consider blocking any heat loss through windows during cooler months.
- ❑ Consider strategic landscaping to save on water bills and cooling in the summer and heating in the winter. See tips and information.
- ❑ Inspect attic insulation levels and address any inadequacies. Add insulation as necessary if remodeling.
- ❑ Check on the roof, note and take photographs of and address any damage, including cracked shingles or other surface aging. In the attic, look for signs of leaks, membrane cracks/holes, or damaged insulation.

A cool roof is made of a material or has a coating that can lower the roof surface temperature, decreasing the amount of heat transferred into a commercial building. In general, cool roofs work best (save more energy) in hot sunny climates. Cool roofs have several benefits for both building owners and the environment.

- *Keeping buildings cooler on hot days to improve indoor comfort and safety and reduce cooling costs*
- *Decreasing roof temperature which can extend the life of the roof materials (slows degradation)*
- *Contributing to lower temperatures in the surrounding air which helps reduce the urban heat island effect in cities*

Heating, Ventilation and Air Conditioning (HVAC)

- ❑ Ensure HVAC system components are being maintained regularly by qualified staff or under an annual maintenance contract to "tune-up" HVAC systems both pre-heating and pre-cooling seasons.
- ❑ Also remember to:
  - ❑ Regularly replace HVAC filters as needed during the heating and cooling seasons.
  - ❑ Ensure free airflow to and from supply/return registers (clear furniture, books, papers, or other materials).
  - ❑ Keep electronics and heat sources away from thermostats.
  - ❑ Use window shades/curtains to block excess heat and educate staff about when to use them.

- ❑ Identify and prevent simultaneous heating and cooling by prohibiting individual space heater use. Address underlying heating and cooling issues causing employee discomfort.

- ❑ Ceiling and personal fans can help with energy savings by making rooms feel cooler during summer months. A smart thermostat can be programmed to pre-cool or pre-heat spaces for comfort an hour prior to occupation. Avoid heating/cooling unoccupied spaces.
- ❑ Depending on outside temperature, set programming to turn off the HVAC 15-30 minutes before space use ends.
- ❑ Use "smart thermostats" and a temperature setback policy for heating/ cooling when the building is unoccupied (including any special considerations for summer/winter months).
- ❑ Have a plan for HVAC failures. Right size new systems by having contractors quote equipment based on high efficiency levels and reduced demand. Do not buy a larger system than you need.
- ❑ Where electricity is the fuel of choice, consider heat pumps or solar for water heating. Heat pumps cost much less to operate than electric resistance heating and even some gas heating units. Where gas is used for water heating, look for a minimum 90% boiler annual fuel use efficiency (AFUE).
- ❑ Maintain boilers regularly, checking for combustion efficiency and sediment.
- ❑ See ENERGY STAR HVAC products and resources.

TIP:

For typical dealerships/ distributors, the following setpoints are recommendations:

Daytime set points:
70º F or lower for heating

Daytime set points:
73º F or higher for cooling

Nighttime and unoccupied setbacks:
60º F for heating or turned off

Nighttime and unoccupied setbacks:
83º F for cooling or turned off

5 Office Equipment/Plug Load

- ❑ For office equipment that needs replacing, consider ENERGY STAR certified options using the online savings calculators and available rebates.
- ❑ Turn off equipment left on overnight unnecessarily (including equipment left in sleep/idle or screen saver mode).
- ❑ Activate power management settings computers, monitors, printers, copiers, etc.

- ❑ Use advanced power strips for easy power disconnect.
- ❑ Train staff to unplug rechargeable devices once charged.
- ❑ Review ENERGY STAR office products and resources, ENERGY STAR vending machines, and water coolers.

Customer Lounge/Refreshment Area/Employee Break Room

- ❑ When purchasing new kitchen equipment, review ENERGY STAR models, calculate savings and find rebates in advance.
- ❑ Dispose of old refrigerators properly. See the voluntary Responsible Appliance Disposal (RAD) Program.
- ❑ Avoid placing heating equipment near cooling equipment.
- ❑ Identify worn and/or leaky door seals/gaskets on refrigerators and freezers. To test, close a door on a piece of paper; if easily pulled out, replace the gasket.
- ❑ Keep refrigerator coils clean and free of obstructions.
- ❑ Identify major water uses. Find and fix any leaks— especially of hot water.
- ❑ Set water temperature 110 – 120 degrees or per local code to prevent scalding and save energy and money.
- ❑ See the voluntary WaterSense® program for water saving labeled products and rebates, for indoor/outdoor water efficiency tips, and best practices.
- ❑ When purchasing signage displays, monitors, televisions, water coolers, vending machines and other products look for the ENERGY STAR label.

TIP:

Celebrate your success and recognize contributors. Also help your employees and customers achieve savings at home and at customers' workplaces.

Service Areas

- ❑ Paint Booths. New paint booths are much more efficient than those available five to ten years ago as they offer premium motors, improved airflow, and ducting, variable speed drives and controls, and more

efficient lighting. When buying a new booth compare efficiency features. For existing booths, consider cost-effective energy-efficient retrofits.

- ❑ Car Wash and Detailing Facilities. These service areas can range from simple pressure washers to automated car washes with rollers and dryers. Older automated washers can be energy-and water- intensive evaluate reclamation systems as they can reduce water use by up to 60 percent
- ❑ Compressed Air. When buying new compressors, compare energy consumption rates.
- ❑ Reciprocating compressors use pistons to maintain tank pressure and are prone to heat build-up in the compressor head and to condensation build-up. They are available in a variety of capacities, require moderate maintenance, and are easy to rebuild.
- ❑ Scroll compressors. Using a rotating scroll to compress air is generally more efficient than reciprocating units at higher volumes and more frequent use. They deliver greater volume with good pressure.
- ❑ Centrifugal compressors. Typically used for large shops, they provide large quantities of air at relatively low pressures. They are low maintenance and can be energy efficient when run at 80 percent or greater of peak capacity. But they are inefficient at lower capacities.
- ❑ For efficient compressor operation, periodically check belts for wear and tension. Also, keep moving parts lubricated, frequently empty water separators, and regularly change air filters. When making a new purchase, consult a compressor product and service provider to determine the most appropriate system size and energy efficiency for the desired use.

Electric Vehicle Supply Equipment (EVSE)

- ❑ Electric vehicles (EVs), and hybrids, represent historic opportunities - and challenges - for dealerships invested in the traditional internal combustion engine (ICE) market. EV sales and service will be different

and must co-exist with your continuing ICE market, but if, when, and how much to invest in EV stock, equipment, safety, staff training, and marketing will vary. Search "EV" at NADA for news and articles on this dynamic topic.

- ❑ There are three major categories of EV chargers, based on the maximum amount of power the charger provides to the battery from the grid: Level 1, Level 2, and DC Fast Charge. All three types are currently ENERGY STAR certified. All ENERGY STAR certified EV chargers use 40% less energy than a standard EV charger in standby mode.
- ❑ Vehicle dealerships will be most interested in DC Fast Charge models.
- ❑ Consider separately metering the charger's energy use to better measure and manage how much electricity is used to charge vehicles versus all other operations.
- ❑ EV chargers may require periodic inspection, testing, and preventive maintenance typically performed by a qualified electrical contractor. Annual maintenance costs can vary but are generally low. Many EV charging service providers offer optional maintenance plans.

TIP:

Consider installing a demand management system to control peak pricing and surge usage charges during peak hour charging.

9 Water: Exterior Savings

- ❑ See the voluntary WaterSense® program for water saving labeled products and rebates, for outdoor water efficiency tips, and best practices.
- ❑ Survey water use to identify major uses; find and fix any leaks—especially with irrigation. Water needs will differ depending on climate zone, precipitation patterns, periodic droughts, extreme weather conditions, and other factors.
- ❑ Water-efficient irrigation products and practices—such as native plantings, water budgeting, seasonal scheduling, or WaterSense labeled weather-based irrigation controllers—could cut the amount of water lost outside by as much as 50 percent.