

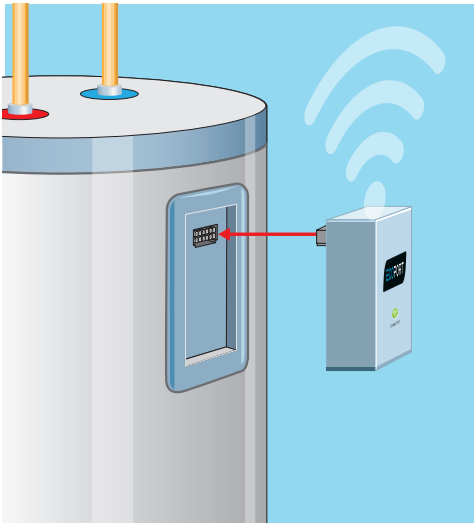


Now managing the

ECOPORT

compliance program

Introducing EcoPort^{CM} – the Grid-Enabled Appliance Standard



While first implementations of the standard are in water heaters, EcoPort provides a standard interface for energy management signals and messages to many other devices, including an energy management hub, a residential gateway, a particular sensor, a thermostat, or appliances ranging from pool pumps to dishwashers.

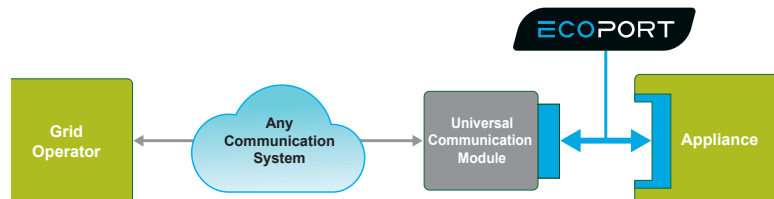
EcoPort^{CM} is the brand name for technology that has been certified compliant with the CTA 2045 technical specification (R7.8 Modular Communication Interface for Energy Management Subcommittee.) EcoPort modules are required in new hot water heaters sold in Washington state in 2022, and other states are considering similar requirements. The OpenADR Alliance has launched a testing and certification program in support of such deployment efforts.

WHAT ECOPORT DOES

Water heaters equipped with an EcoPort interface allow utilities to send frequent load curtailment requests to them; a smart algorithm in the control circuit of the heating elements designed by the tank manufacturer can ignore the utilities' request in order to ensure a large supply of hot water for the customer. This new approach to demand response greatly reduces the cost of controlling water heaters, while at the same time allowing daily control and improving the customer experience. This approach also allows for smart applications such as aligning the appliance's energy consumption to minimize electric grid costs, or aligning the appliance's energy usage with times of variable renewable energy availability.

ANSI/CTA-2045-A describes a standard socket and communications protocol that appliance makers can include on their products, making this type of control possible. Appliance makers can provide the same interface on all products. Consumers select an appropriate communications module to plug into their appliances based on the networking system (LonWorks, Wi-Fi, etc.) in their homes.

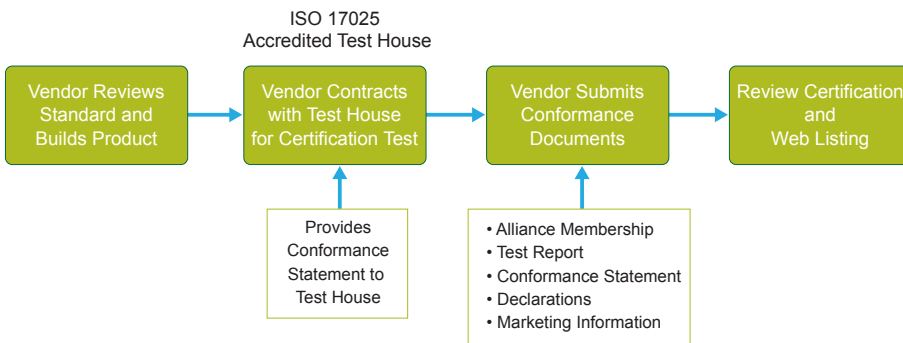
ECOPORT ARCHITECTURE



INTRODUCING THE ECOPORT TESTING AND CERTIFICATION PROGRAM

The certification program provides for testing and verification the product's correct sending and receiving of the messages defined by the CTA 2045 specification. Once a product testing report has been reviewed and found to be complete in its implementation of all the specification requirements, the product manufacturer receives the ability to use the EcoPort name and logo on its products and marketing material. EcoPort testing and certification is administered by the OpenADR Alliance, a large, international ecosystem of system operators, utilities, aggregators, controls vendors and solution providers that share a common interest in accelerating the use and adoption of this standard.

CERTIFICATION PROCESS



The EcoPort mark on an appliance certifies that when an EcoPort-certified control module is plugged into the marked appliance, it can reliably establish network communications (that meet the requirements of CTA-2045) in support of smart applications such as aligning the appliance's energy consumption to minimize electric grid costs or to align with times of variable renewable energy availability. In this way the EcoPort mark ensures utility grid operators, consumers, regulators, and others that diverse sets of certified appliances and communications modules, made by an array of manufacturers, will be physically and electronically compatible when deployed in the field.

For more information on EcoPort go to www.openadr.org/ecoport

Regulatory Support

In Washington State, state law now requires all new electric storage water heaters to include a CTA-2045 communications port. Oregon, plus several states in the northeastern U.S., are currently considering similar requirements. The California Public Utilities Commission recently adopted program requirements for the Self-Generation Incentive Program (SGIP) Heat Pump Water Heater (HPWH) program that was authorized in prior CPUC Decisions. To participate in the program, HPWHs must incorporate an EcoPort compliant communications port.

