

(e.g., fan, dampers), and exhaust **78** (e.g., fan, dampers). Control circuitry **30b**, cooling equipment **72**, heating equipment **74**, outdoor supply **76** and exhaust **78** may comprise associated loads **50b** of system **80**.

In one embodiment, power management operations of system **70** and implemented by control circuitry **30b** include adjusting a set point of thermostat **71**. For example, during cooling operations, the thermostat set point may be temporarily raised, and for heating operations, the thermostat set point may be temporarily lowered. In other exemplary power management operations, control circuitry **30b** may directly disable or provide other control of cooling and/or heating equipment **72**, **74**.

Additional power management operations include controlling fans or dampers of outdoor supply **76** or exhaust **78** using control circuitry **30b** to provide desired configurations during operation in modes of reduced power consumption. The fans and dampers can be provided by circuitry **30b** into desired configurations (fans on or off and/or dampers open or closed) with respect to building supply and exhaust operations. For configurations wherein a heat pump (not shown) is implemented within cooling and/or heating equipment **72**, **74**, control circuitry **30b** may temporarily disable or cancel a defrost operation of the heat pump during power management operations. If disabled or canceled, control circuitry **30b** may reschedule the defrost operation to another moment in time (e.g., in configurations wherein defrost operations are timer controlled).

Referring to FIG. 5, appliance **18c** arranged as a clothes dryer **80** is shown. An exemplary clothes dryer **80** may include control circuitry **30c**, a heating element **82**, and a tumbler motor **84**. Heating element **82** is configured in one embodiment to heat an associated compartment (not shown) of clothes dryer **80** configured to receive and dry clothes. Tumbler motor **84** is configured to spin clothes within the associated compartment during drying operations. Control circuitry **30c**, heating element **82** and tumbler motor **84** comprise exemplary associated loads **50c** of clothes dryer **80** in the depicted embodiment.

In one configuration, power management operations of clothes dryer **80** include reducing or ceasing the supply of electrical energy to heating element **82** (e.g., reducing an amount of current supplied to heating element **82**) and/or tumbler motor **84**. It may be desired to maintain tumbler motor **84** in an operative mode during an implementation of power management operations with respect to heating element **82**.

Referring to FIG. 6, appliance **18d** arranged as a clothes washer **90** is shown. An exemplary clothes washer **90** may include control circuitry **30d**, a heating element **92**, and an agitator motor **94**. Heating element **92** is configured to heat water used in an associated compartment (not shown) of clothes washer **90** configured to receive and wash clothes. Agitator motor **94** is configured to oscillate between different rotational directions or otherwise agitate clothes within the associated compartment during wash and/or rinse operations. Control circuitry **30d**, heating element **92** and agitator motor **94** comprise associated loads **50d** of clothes washer **90** in the depicted embodiment.

In one configuration, power management operations of clothes washer **90** include reducing or ceasing the supply of electrical energy to heating element **92** to reduce internal temperatures of water in the associated compartment and/or agitator motor **94** to reduce motion of the motor **94**. The reduction in power by controlling heating element **92** may be linear and accordingly the benefits may be directly proportional to the reduction in the water temperature. The

reduction in power to agitator motor **94** may be proportional to a product of angular acceleration, mass and angular velocity. A slowing down of agitator motion of motor **94** could affect both a reduction in acceleration as the motor reverses its motion as well as angular velocity. In other embodiments, it may be desired to maintain agitator motor **94** in an operative mode during an implementation of power management operations with respect to heating element **92**.

Referring to FIG. 7, appliance **18e** arranged as a water management system **100** is shown. Water management system **100** is configured to provide heating, circulation and/or filtering of water within a water reservoir (not shown in FIG. 7) of a spa (hot tub), swimming pool, or other configuration in exemplary implementations. The illustrated configuration of water management system **100** includes control circuitry **30e** (embodying a thermostat **101** in the depicted exemplary configuration), a heating element **102**, and a circulation motor **104** (e.g., circulation and/or filter pump). Control circuitry **30e**, heating element **102** and circulation motor **104** comprise associated loads **50e** of system **100** in an exemplary configuration.

According to an illustrative embodiment, power management operations of system **100** implemented by control circuitry **30e** include adjusting a set point of thermostat **101**. For example, the thermostat set point may be temporarily lowered. In other exemplary power management operations, control circuitry **30e** may directly disable or provide other control of heating element **102** and/or circulation motor **104**. In specific exemplary arrangements, control circuitry **30e** may adjust an amount of current provided to heating element **102**, or control the angular velocity of motor **104** to adjust (e.g., reduce) water circulation operations of the spa, pool or other water reservoir during operation in modes of reduced power consumption. The power management operations are temporary in the described example, and accordingly, the operations are typically transparent to a user.

Referring to FIG. 8, appliance **18f** arranged as an exemplary dish washer **110** is illustrated. Dish washer **110** includes control circuitry **30f**, a water heating element **112**, a forced air heating element **114**, and a water pump **116** in but one embodiment. Dish washer **110** may additionally include a compartment (not shown) configured to receive to dishes. Water heating element **112** may adjust a temperature of water used to wash dishes using dish washer **110** in one embodiment. Forced air heating element **114** adjusts a temperature of air used to dry the dishes in one implementation. Water pump **116** may spray water on the dishes during a cleaning and/or rinsing cycle to provide a dish cleaning action and/or rinsing action. Control circuitry **30f**, heating elements **112**, **114**, and water pump **116** may comprise associated loads **50f** of dish washer **110**.

Exemplary power management operations of dish washer **110** implemented by control circuitry **30f** in one embodiment include controlling the water heater **112** to reduce a water temperature boost cycle during wash operations and/or reduce air temperature by forced air heater **114** during rinsing/drying operations. Reduction of water temperature provides corresponding linear reductions in electrical power consumption. Control circuitry **30f** may also control operations of water pump **116** (e.g., reduce the operational speed of pump **116**) during modes of reduced power consumption.

Referring to FIG. 9, appliance **18g** arranged as an exemplary home and office system **120** is illustrated. System **120** includes at least one component or device configured to selectively operate in an energy saving mode (e.g., in accordance with Energy Star™) wherein a reduced amount of electrical energy is consumed by the device or compo-