California Energy Commission Computers Rulemaking

California Plug Load Research Center

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California Energy Commission

- The state's primary energy policy and planning agency
- Responsibilities include promoting energy efficiency and conservation by setting minimum appliance and building efficiency standards, and other cost-effective measures
- The Warren-Alquist Act requires the Commission to prescribe appliance efficiency standards that are:
  - For appliances that have a significant energy (or water) use
  - Feasible and attainable
  - Cost effective to the consumer

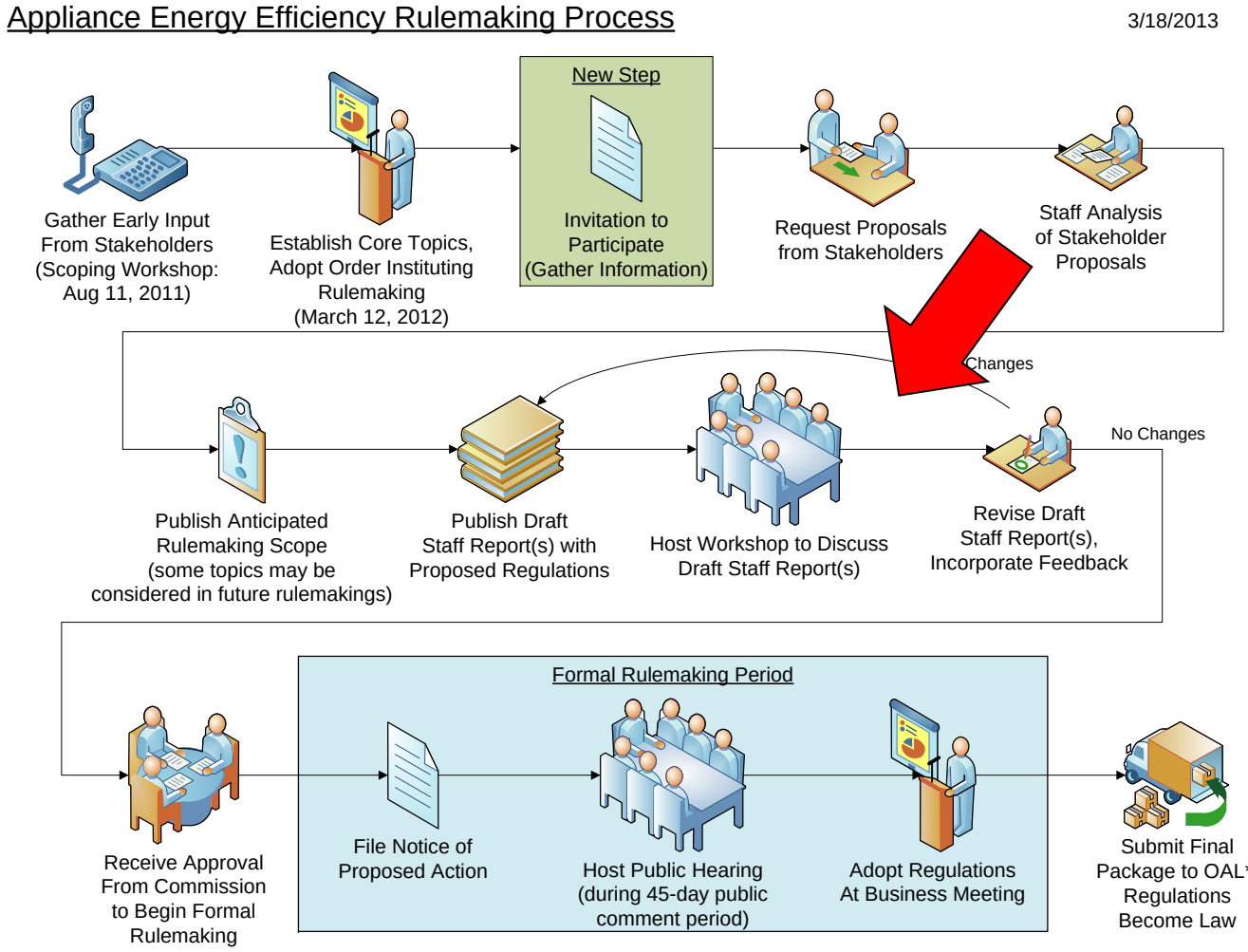
Why Are Plug Loads Important?

- Plugs loads are the fastest growing loads in California. It is estimated that by 2030, approximately 30% of residential energy use will be due to plug loads.

- Addressing plug loads is a key element to achieving the state's goals for zero-net energy buildings and for doubling energy efficiency of existing buildings.

- The Energy Commission has provided research funding to the California Plug Load Research Center (CalPlug) to help identify plug-load efficiency solutions and opportunities, including computers.

Overview of Computers Rulemaking



Scope of Products Included in Draft Staff Report for Computers

In Scope	Not In Scope
Desktop Computers	Tablets
Notebook Computers	Game Consoles
Small-Scale Servers	Handheld gaming devices
Workstations	Servers other than small-scale servers
Thin-Client Computers	Industrial process controllers

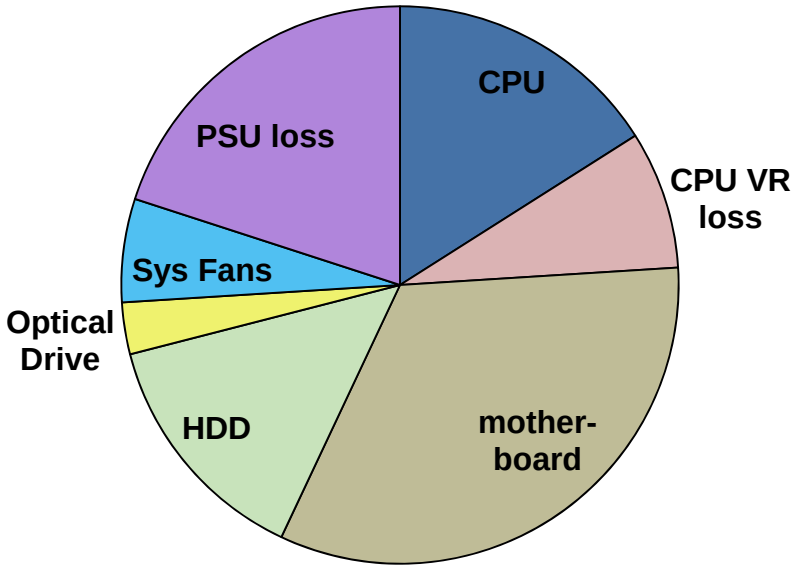
Modes of Operation

Mode Name		Measured?	Description
Off	HIGHER POWER	Yes	Also known as “soft-off” the computer is shutdown.
Sleep		Yes	The computer has manually or automatically entered a low power state, the CPU is no longer active.
Long-idle		Yes	The computer is on and active, but has not been used for 15 minutes, the screen has shut-off.
Short-idle		Yes	The computer is on and active, but has not been used for 5 minutes and only background programs are running.
Active		No	The computer is on and active and currently in use.

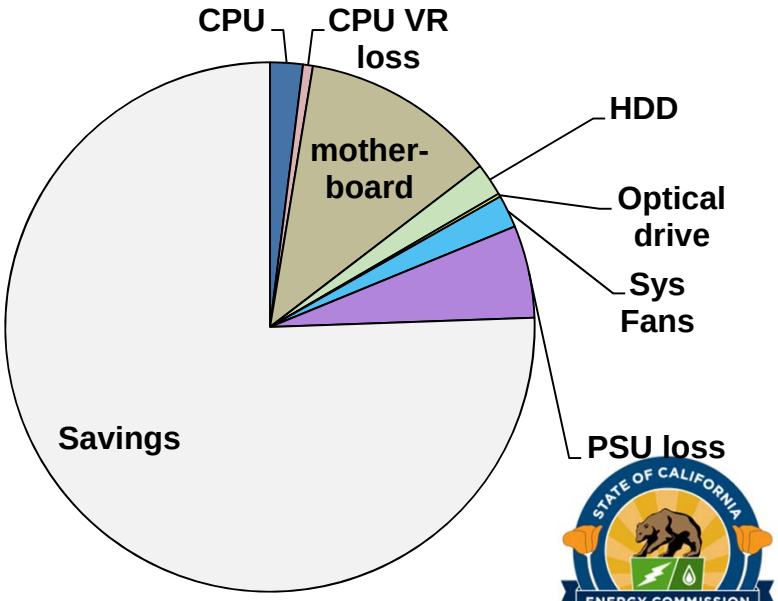
Importance of Idle Modes

Idle modes represent a significant opportunity to reduce computer energy consumption.

Today's Idle Power (watts)



Potential Idle Power (watts)



Draft Performance Standards

- Transition display into sleep mode after 15 minutes of user inactivity
- Transition into sleep mode after 30 minutes of user inactivity
- Small-scale servers and workstations must be manufactured with 80 plus Gold level power supply and energy efficient ethernet
- Notebooks, desktops, and thin-clients must meet specified performance targets with adders for memory, energy efficient ethernet, storage, and integrated display

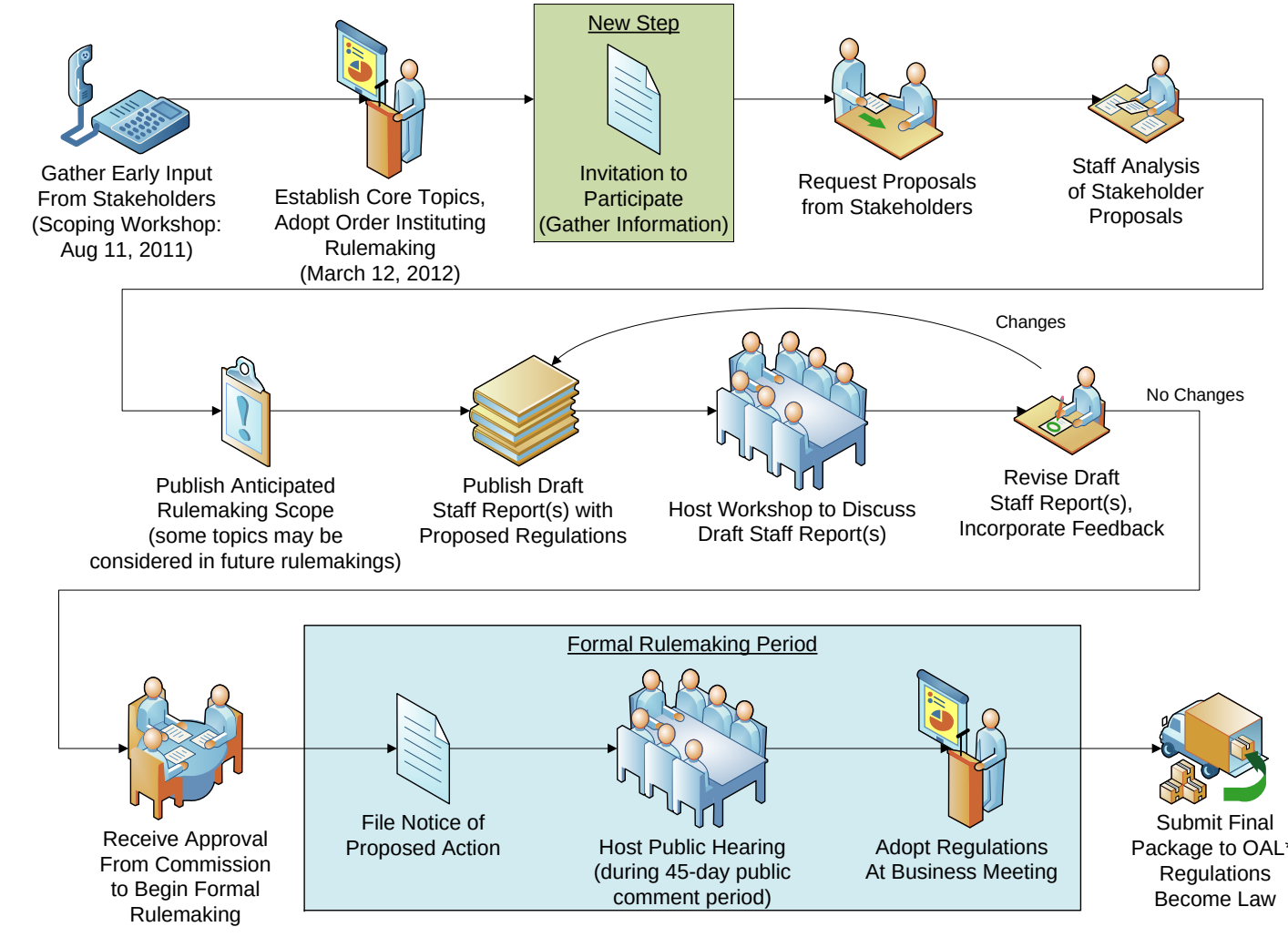
Potential Benefits

- Statewide energy savings of 2,117.2 GWh/year after stock turnover.
- $339.9 million dollars in reduced electricity costs.
- 0.634 million metric tons of CO_2 avoided.

Opportunities for Participating

Appliance Energy Efficiency Rulemaking Process

3/18/2013



To find out more:

Visit our website

Docket #14-AAER-2, Computers, Computer Monitors, and Signage Displays: http://www.energy.ca.gov/appliances/2014-AAER-2/prerulemaking/

Sign up for the “appliances” listserv

http://www.energy.ca.gov/efficiency/listservers.html

Contact our staff

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