



# CITY OF DEL MAR

## SUSTAINABILITY ADVISORY COMMITTEE

### Green Paper: Consider an All-Electric Heat Pump Water Heater

#### Prepared by the Sustainability Advisory Committee

Is your gas water heater more than 10 to 15 years old? Approaching the end of life? Consider replacing it with an all-electric heat pump water heater (HPWH).

HPWHs are so efficient that they will be highly encouraged by State law<sup>1</sup> in all new residential construction, next year. The State of California has launched a program called TECH in which approved installers (see <https://switchison.cleanenergyconnection.org/> for a list) will get a \$3,000 State rebate for each HPWH that households install, and this rebate should be passed on to the homeowner. Not only the State, but through the federal Inflation Reduction Act<sup>2</sup>, there are more subsidies for heat pumps, so that prices will be comparable to previous systems.

What is so important about heat pumps? Heat pumps are 3 to 4 times more efficient<sup>3</sup> than older electric resistance heaters. So that *even if* the grid electricity is based on fossil fuels, a heat pump can deliver the same amount of energy with much fewer greenhouse gas (GHG) emissions. Additionally in Del Mar, electricity from our Clean Energy Alliance<sup>4</sup> (CEA) is more than 75% carbon-free and many people have opted for 100% clean electricity.

With rebates and greatly increased energy efficiency, you may save on your monthly energy bill and recoup your investment relatively rapidly. The installation would require an electrician ensuring that your panel can support a 220V circuit. As we are in a climate emergency<sup>5</sup>, replacing that old gas water heater as it gets older with a highly-efficient HPWH will do a lot!

Another reason to make the change is that nationwide, California has a long way to go to electrify equipment in our buildings to take advantage of our ever-cleaner electricity supply. For example, the map below shows that only 21% of households have electric hot water heaters, less than half the national average.

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<sup>1</sup> <https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2022-building-energy-efficiency>

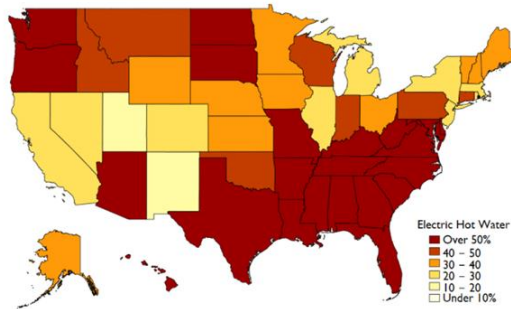
<sup>2</sup> <https://www.energy.ca.gov/programs-and-topics/programs/inflation-reduction-act-residential-energy-rebate-programs-california>

<sup>3</sup> <https://mygreenmontgomery.org/2021/environmental-and-economic-advantages-of-switching-to-an-electric-heat-pump/>

<sup>4</sup> <https://www.delmar.ca.us/672/Energy-Use-Generation>

<sup>5</sup> [https://www.delmar.ca.us/AgendaCenter/ViewFile/Agenda/\\_06152020-2466](https://www.delmar.ca.us/AgendaCenter/ViewFile/Agenda/_06152020-2466)

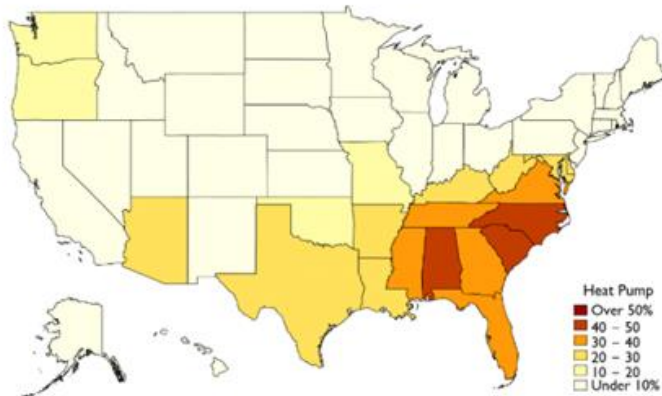
Fact 3: 21% of California households have an electric hot water heater, compared to 47% nationwide.



Note: The map was created by Lucas Davis (UC Berkeley) based on data from the 2020 Residential Energy Consumption Survey. The map describes the percentage of households in each state that report electricity as the fuel used by the main water heater. Percentages are calculated using RECS sampling weights.

And only 6% of California households have any form of heat pump compared with a range of 20 to 40% in the nation (Figure below).

Fact 2: 6% of California households have a heat pump, compared to 15% nationwide.



Note: The map was created by Lucas Davis (UC Berkeley) based on data from the 2020 Residential Energy Consumption Survey. The map describes the percentage of households in each state that report having a heat pump for their main source of heating. Percentages are calculated using RECS sampling weights.

By switching out our gas water heaters upon end-of-life, each of us can help California catch up, get ahead of other states in electrification, and avoid future GHG emissions. For more information, you can contact one of the TECH eligible contractors.

<https://switchison.cleanenergyconnection.org/>

**Reference for images above:**

<https://energyathaas.wordpress.com/2023/05/08/three-facts-about-electric-heating-in-california/>

**Other reference:**

<https://www.delmar.ca.us/AgendaCenter/ViewFile/Agenda/06152020-2466>

<https://www.delmar.ca.us/672/Energy-Use-Generation>

<https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2022-building-energy-efficiency>

<https://www.energy.ca.gov/programs-and-topics/programs/inflation-reduction-act-residential-energy-rebate-programs-california>

<https://mygreenmontgomery.org/2021/environmental-and-economic-advantages-of-switching-to-an-electric-heat-pump/>

<https://switchison.cleanenergyconnection.org/>

<https://techcleanca.com/>