Updated 12/10/2024 Public Comment:

Justification for Proposed Amendment to PAR-1121

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According to Google(R), the percent of Los Angeles County Housing Units built before 1960 is only about 3.6% of all Housing Units. (see attached page at end). Many of these pre-1960 Units are Single-Family Residences (SFR), which contribute significantly to the overall character and desirability of many neighborhoods.

SFR Units built before 1960, with no Air Conditioning (A/C) is likely to be even a smaller percentage. To help preserve the historical nature of these residences and their surrounding neighborhoods, Citizen proposes that an exemption to the proposed NOx Zero-Emission Requirements for replacement Water Heaters be allowed, which still preserves the Table 2 requirements as a 96+% solution to the desired NOx reductions. This can be accomplished by modifying the PAR-1121 Table 2 note, to read:

** Excluding Mobile Home Water Heaters, and Water Heaters for Single-Family Residences without Air-Conditioning that were constructed before 1960, in order to preserve the character of many Los Angeles historical neighborhoods.*

Additionally, a typical residential gas water heater uses between 20-50 therms of gas per month, which translates to roughly 2,000-5,000 BTUs per hour depending on its size and usage frequency; a "therm" is a unit of measurement for natural gas equaling 100,000 BTUs.
Key points about residential gas water heater usage:

Average consumption: Most homes use between 20 and 50 therms of gas per month for hot water.
BTU rating: A typical residential gas water heater BTU rating is 30,000-40,000 BTUs per hour
Factors affecting usage: The amount of hot water used, water temperature settings, and the size of the water heater tank all influence gas consumption.

To convert a measurement in Joules to a measurement in british thermal units (BTU), multiply the energy by the following conversion ratio: **0.000948 british thermal units/Joule**. The energy in british thermal units is equal to the energy in joules multiplied by 0.000948. To convert BTUs to Joules, multiply by **1054.85232**. Therefore:

1 'NOx' ng/J = 1 ng/[1J (.000948 BTU/J)] = 1054.85 ng/BTU = 1.05485 ug/BTU.
10 'NOx' ng/J = 10548.5 ng/BTU = 10.5485 ug/BTU=1.05485 gms/(therm).
50 therms/month = 600 therms/year = 632.911 gms 'NOx' per year for an average household.
At 453.592 grams per pound, this is 1.39633 pounds of 'NOx' per year for an average household.

The Valero-Ultramar facility has an 'NOx' allocation of 472,716 pounds per year, which is equivalent to 338,785 average residences. Given 3,785,720 total housing units in Los Angeles County as of 2023, with a total of 132,193 built before 1960, exempting all housing units built before 1960 would still only be 39% of the 'NOx' allocation for this one large industrial polluting facility.

In unincorporated Los Angeles County, the most common household size is two people (25.5%), and the second most common is three people (18.3%). Assuming the remainder is a one-person household would then be 56.2%, for an average occupancy of at least 1.62 persons per household. Using 1.62 as representative of SFR occupancy for homes built before 1960 gives 214,417 affected human persons.

On this scale, the full Valero-Ultrmar 'NOx' allocation would be equivalent to the expected 'NOx' water heater load expected from 549,800 human persons, occupying the SFR units. Thus, having a pre-1960 SFR exception is well justified.

Table 1 – NOx Emission Limits

Equipment	NOx Emission Limits	
	ng/J	ppmv
Water Heater*	10	15
Mobile Home Water Heater	40	55

* Excluding Mobile Home Water Heater

(2) On and after the applicable Table 2 compliance dates, no person shall manufacture, supply, sell, resell, offer for sale, import, or Install a Water Heater for use in the South Coast AQMD that exceeds the Table 2 NOx emission limits. The applicable Table 2 compliance dates for New Building types shall be determined based on the construction or alteration completion date.

AI Overview

As of July 1, 2023, Los Angeles County had **3,675,720** housing units.

Los Angeles County has a significant shortage of affordable housing, with some estimates suggesting that the county is 270,000 units short. The county is also losing affordable housing units at an alarming rate, with some 3,500 units at risk of losing their affordability terms.

Some of the challenges facing the county's housing market include:

High housing costs

Renters in Los Angeles County need to earn $48.04 per hour to afford the average monthly asking rent of $2,498.

Low production rate

The production rate for affordable housing is at its lowest in over a decade.

Homelessness

In 2023, there were only 39,752 beds available for people experiencing homelessness.

AI Overview

The number of housing units built in Los Angeles County before 1960 was **132,193 units** in the 1950s. In the 1960s, the number of houses built increased by 76% to 232,379.

Los Angeles's housing stock includes 1,373,864 units, with 506,115 owner-occupied and 867,749 renter-occupied. The city's goal is to build more than 450,000 homes by 2029 to meet state housing requirements.

Fraction of LA County Housing Units
built before 1960 is only 3.6% of present-day total:
(132,193) / (3,675,720) = 3.6 %