

# Hawaii's Energy and the Economy

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to the

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# What will Hawaii's economy look like in 2030 and 2045?

Indicators	2016	2030	2045
Resident population (million)	1,428,557	1,559,782	1,651,549
Visitor arrivals (million)	8.8	10.8	12.2
Occupied visitor units	62,562	83,225	94,407
Real personal income (millions of 2012\$)	67,659	89,960	118,680
Total civilian jobs	857,951	970,520	1,066,030
Utility jobs	4,361	5,190	5,740
<b>Average annual growth rate (%)</b>	<b>1996-2016</b>	<b>2016-2030</b>	<b>2030-2045</b>
Resident population	0.9	0.6	0.4
Visitor arrivals	1.4	1.5	0.8
Occupied visitor units	0.8	2.1	0.8
Real personal income	2.1	2.1	1.9
Total civilian jobs	1.2	0.9	0.6
Utility jobs	0.7	1.3	0.7

Source: U.S. Census Bureau, BEA, HTA, and DBEDT

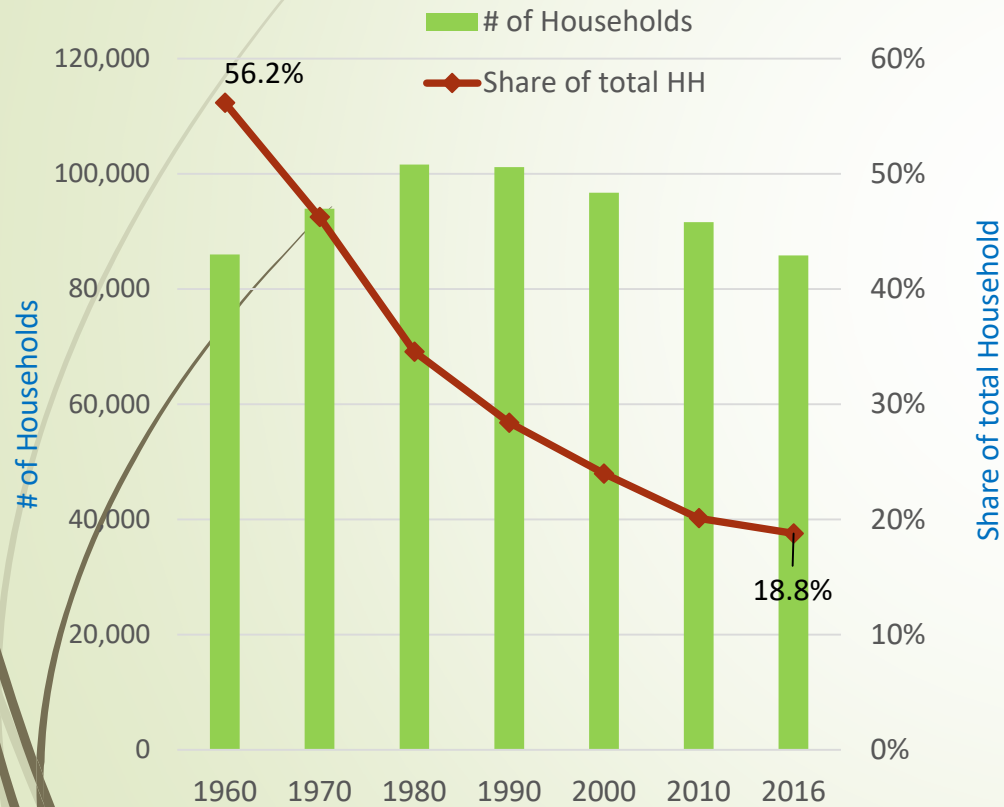
# Hawaii homeownership has been one of the lowest in the nation



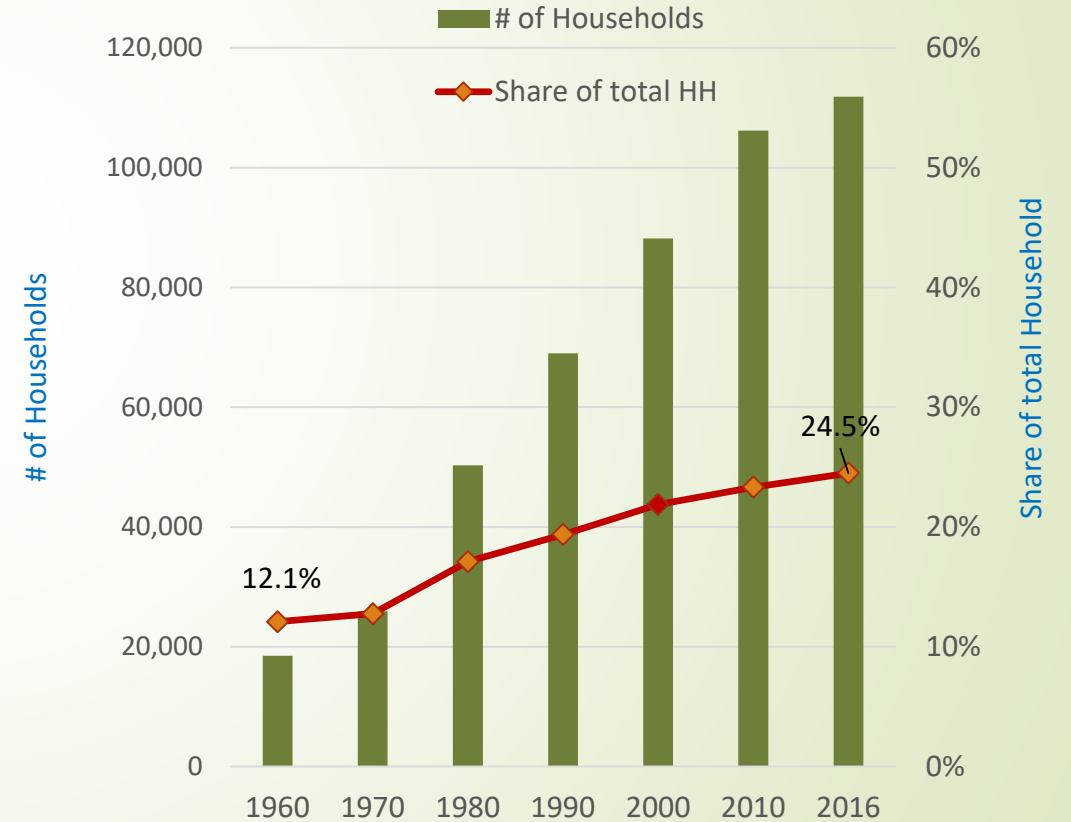
Source: Census Bureau

# Less traditional families and more people live alone

**“Married Couple with own Children” Households (Hawaii)**

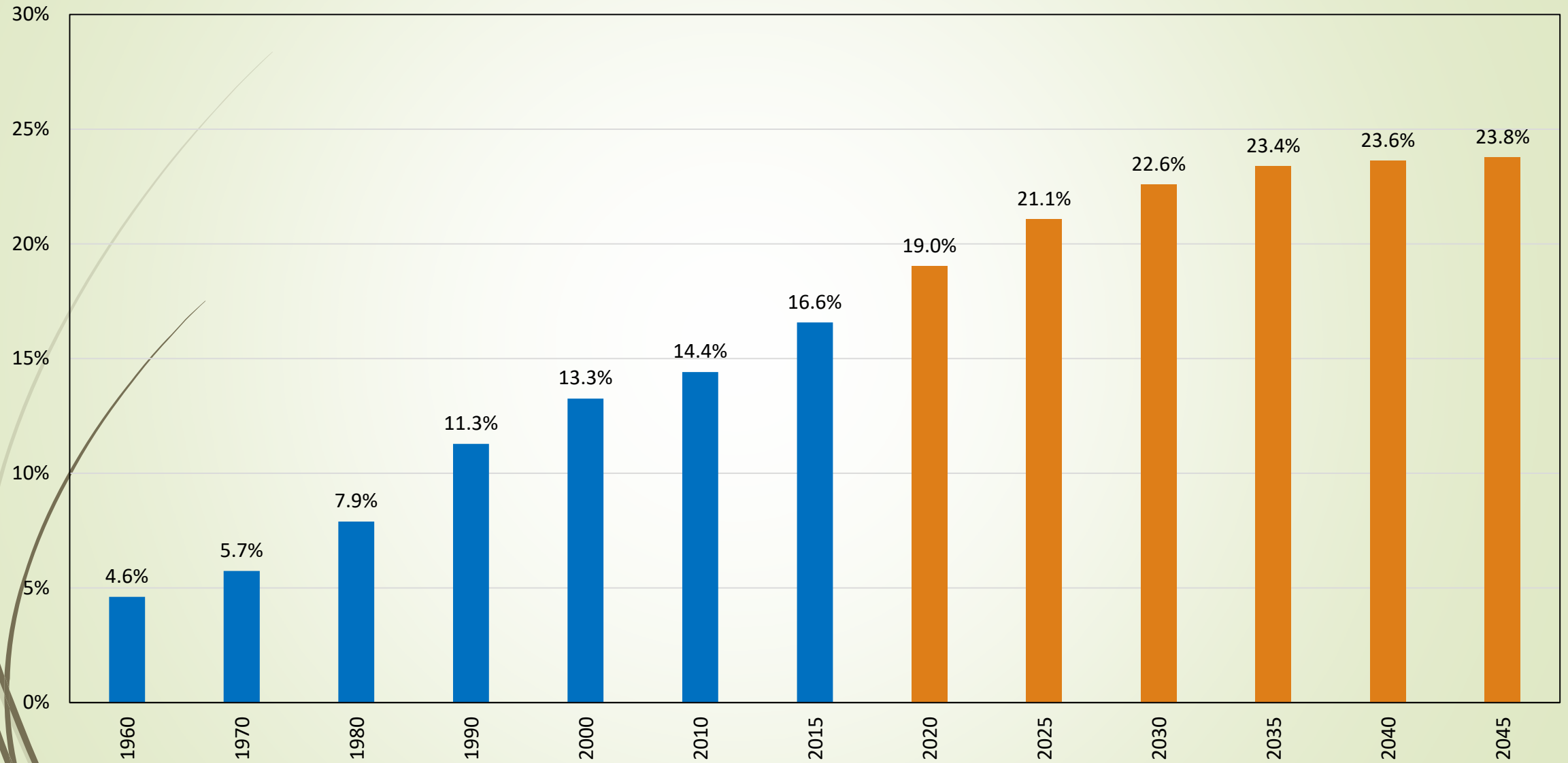


**Living Alone (Hawaii)**



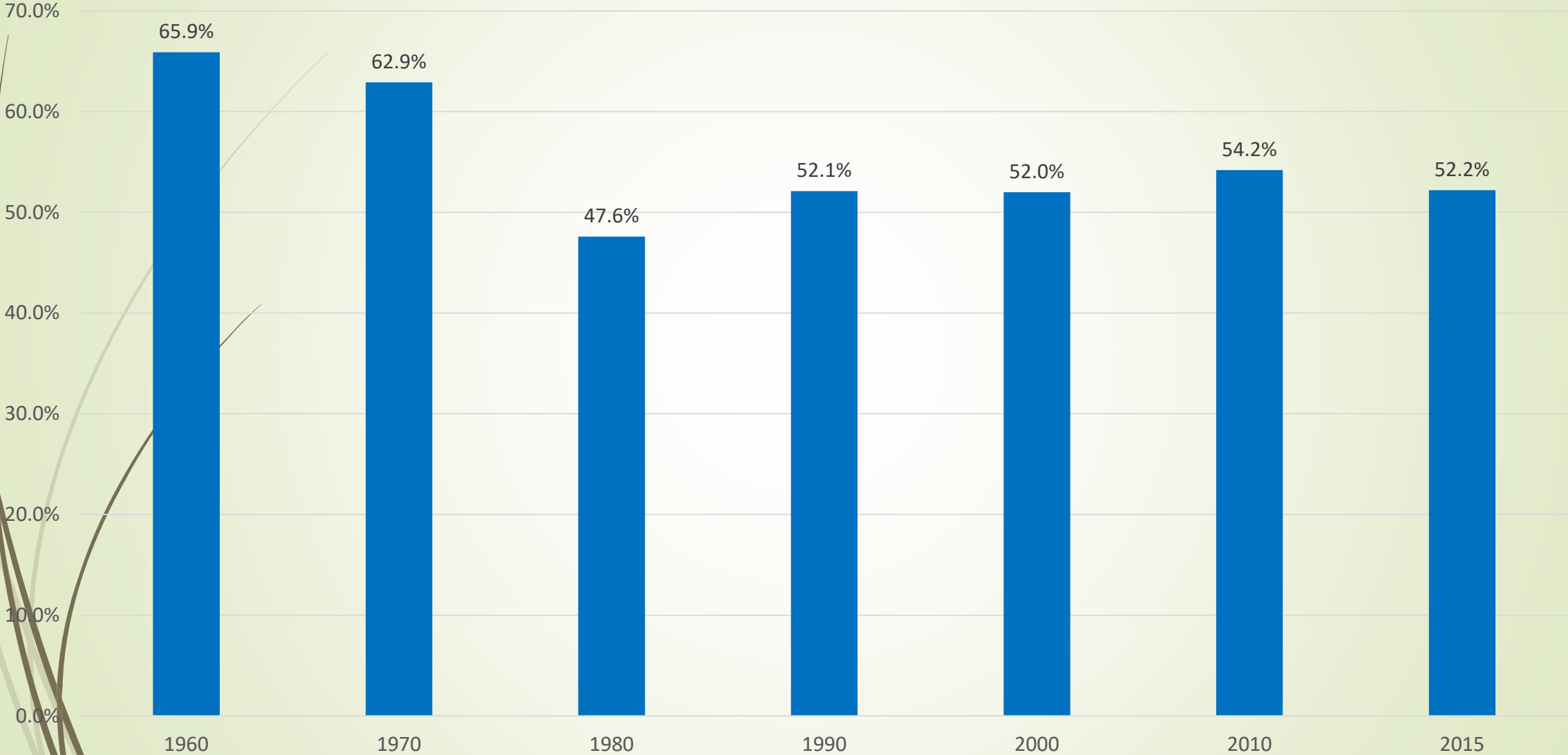
Source: U.S. Census Bureau

# % of people 65 years and above



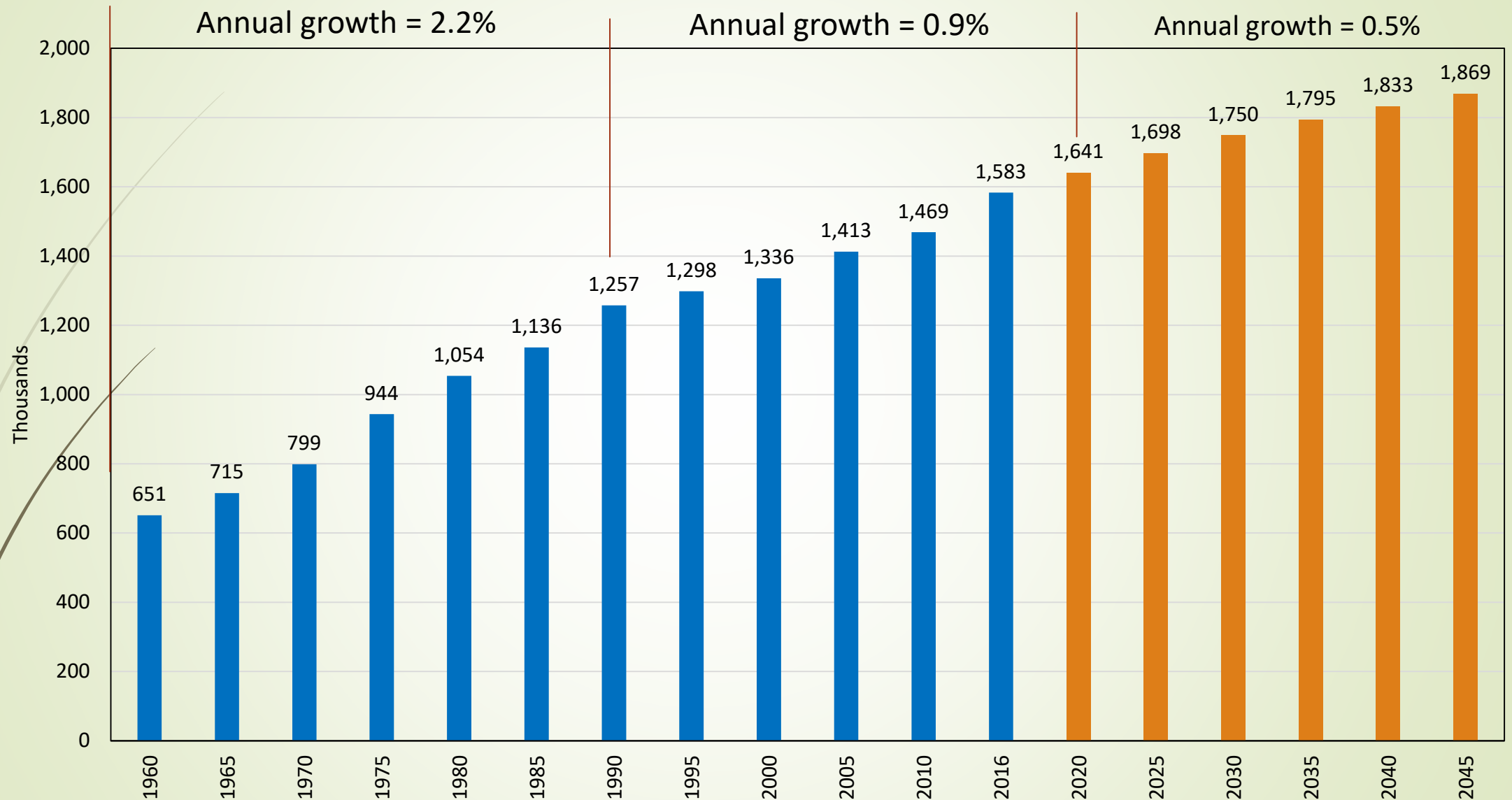
Source: U.S. Census Bureau

# % of Single-Family Homes



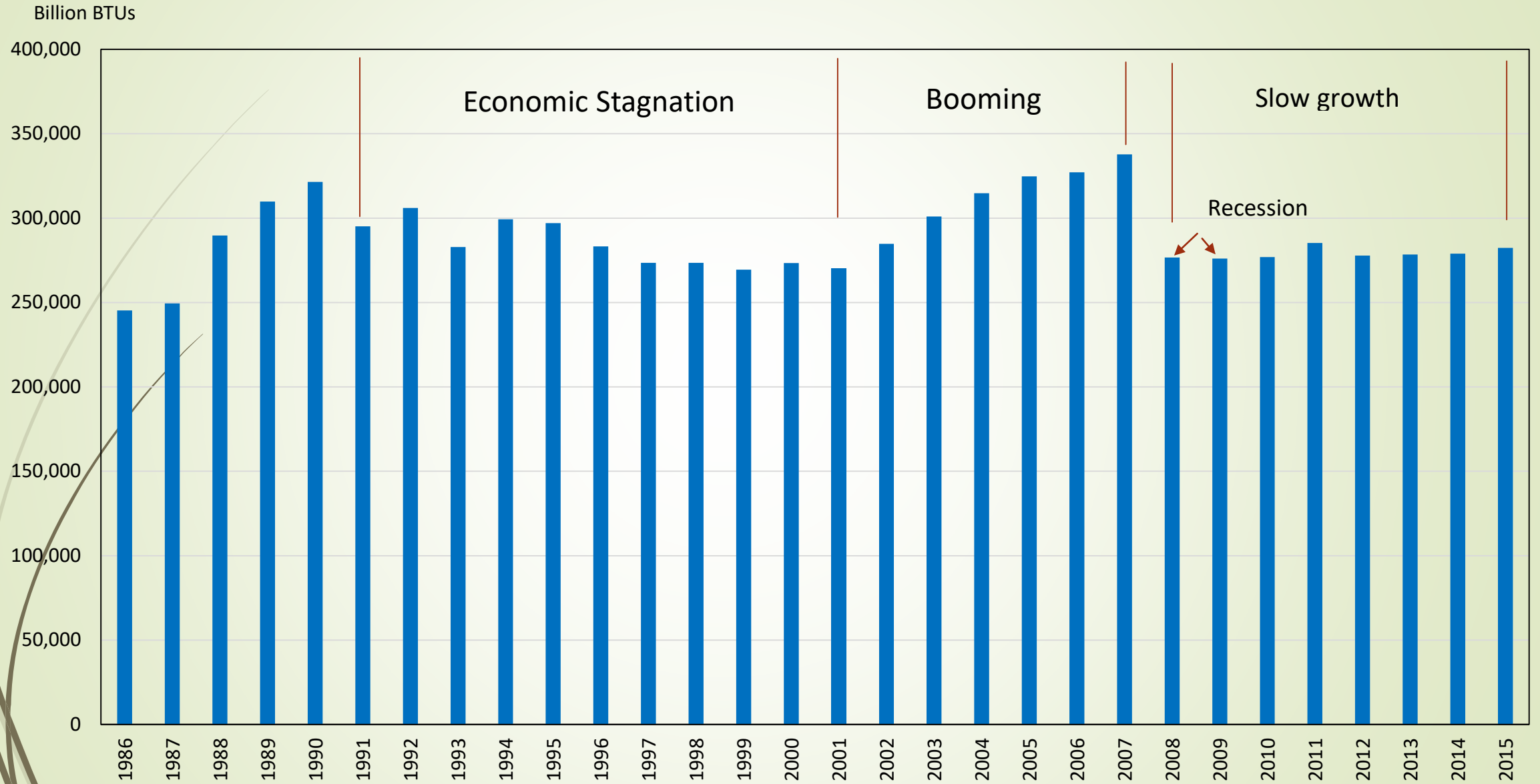
Source: U.S. Census Bureau

# De Facto Population



Source: DBEDT

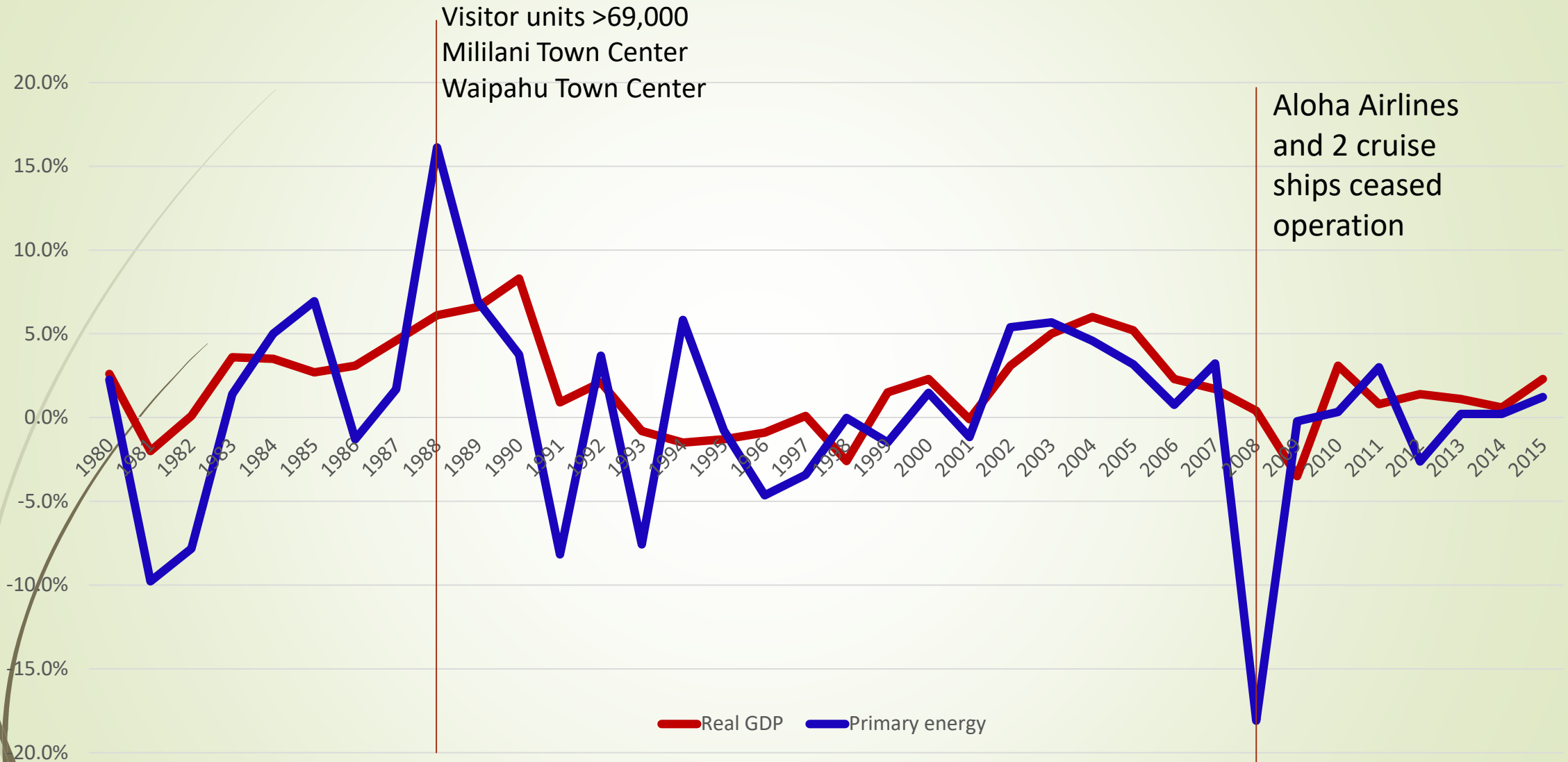
# Total Primary Energy Consumption



Source: Energy Information Administration, State Energy Data System

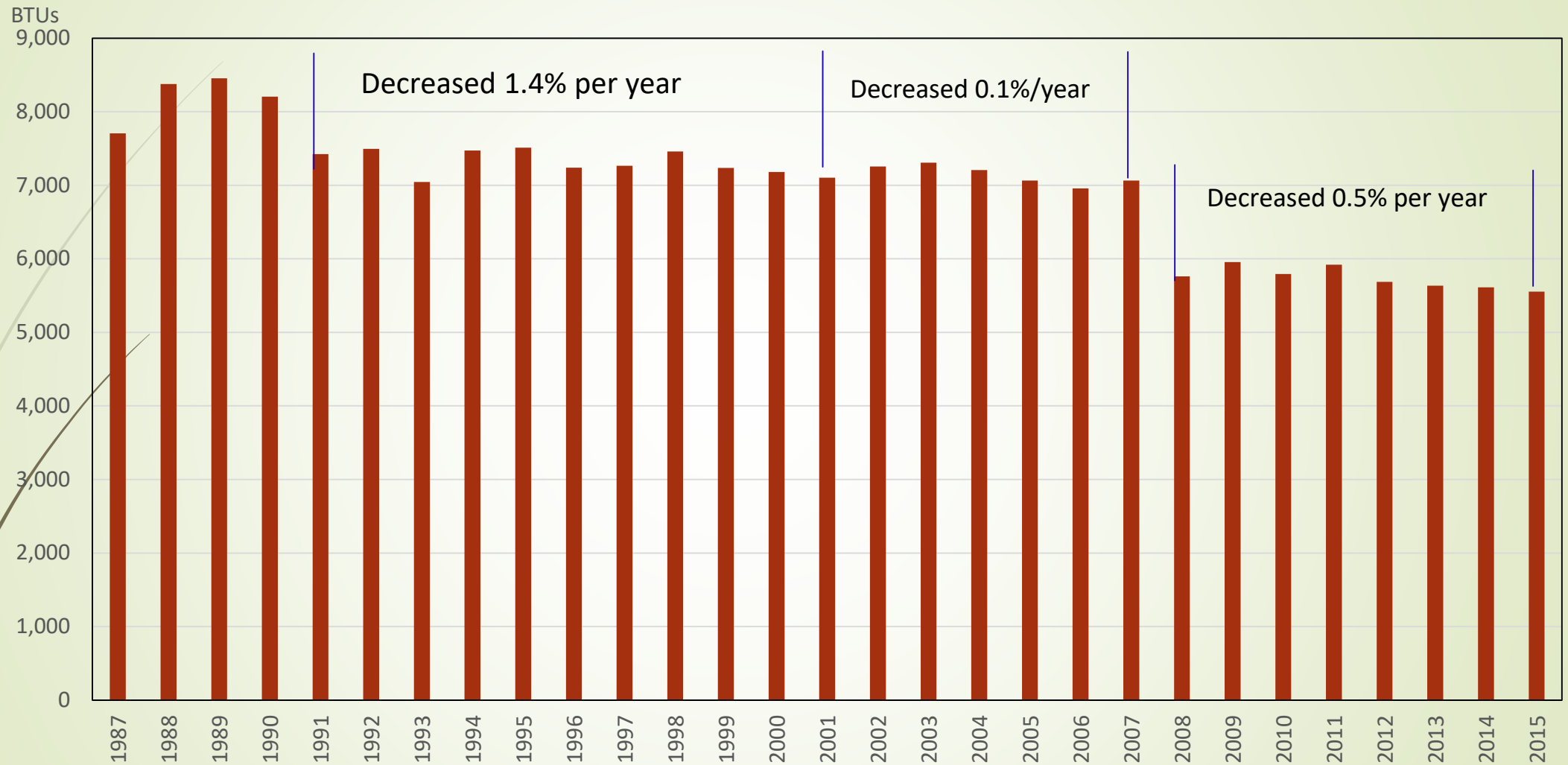


# Growth of Real GDP and Primary Energy in Hawaii



Source: BEA and EIA

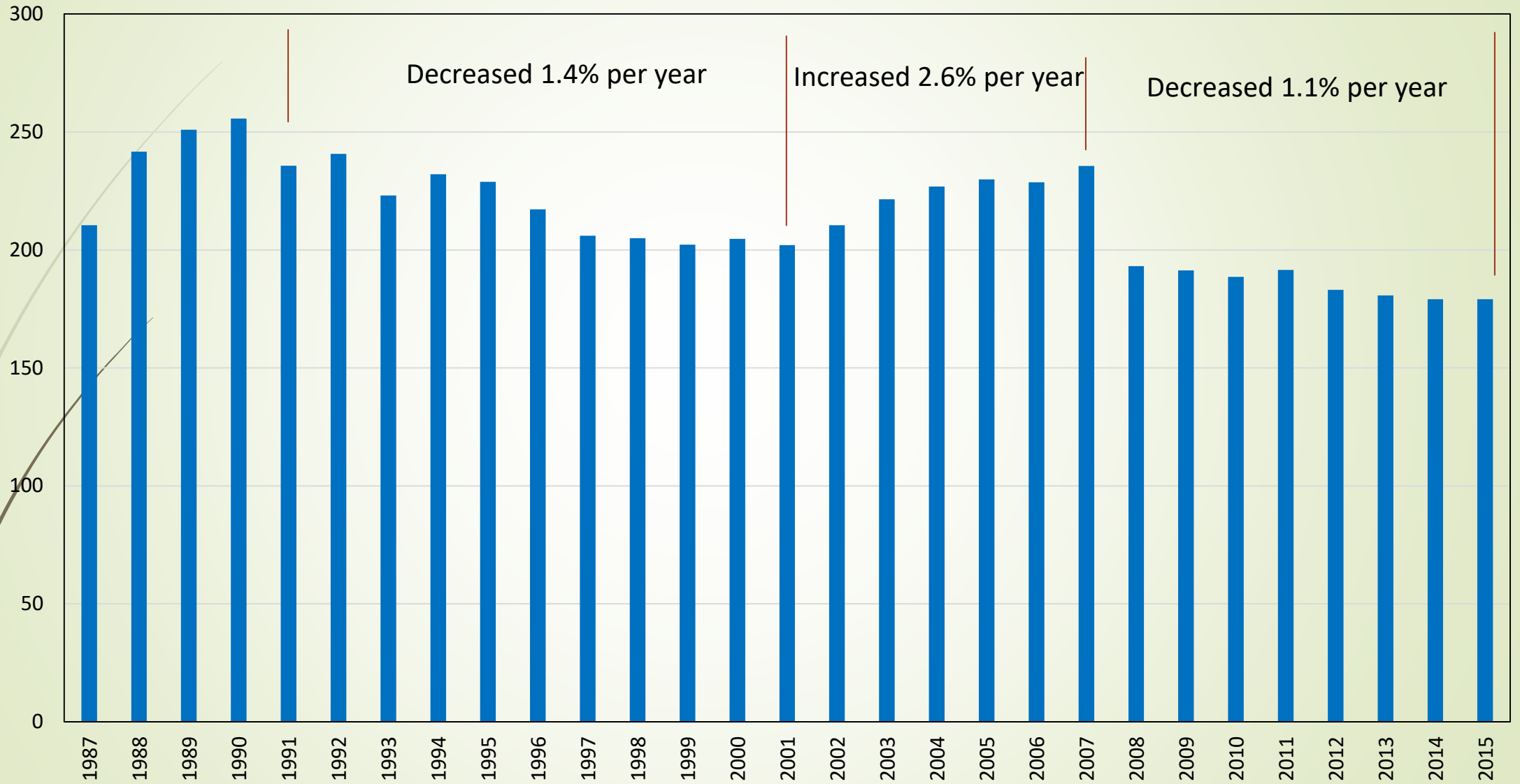
# Total primary energy consumption per dollar of real GDP (in 1997 dollars)



Source: Energy Information Administration, State Energy Data System, U.S. Bureau of Economic Analysis

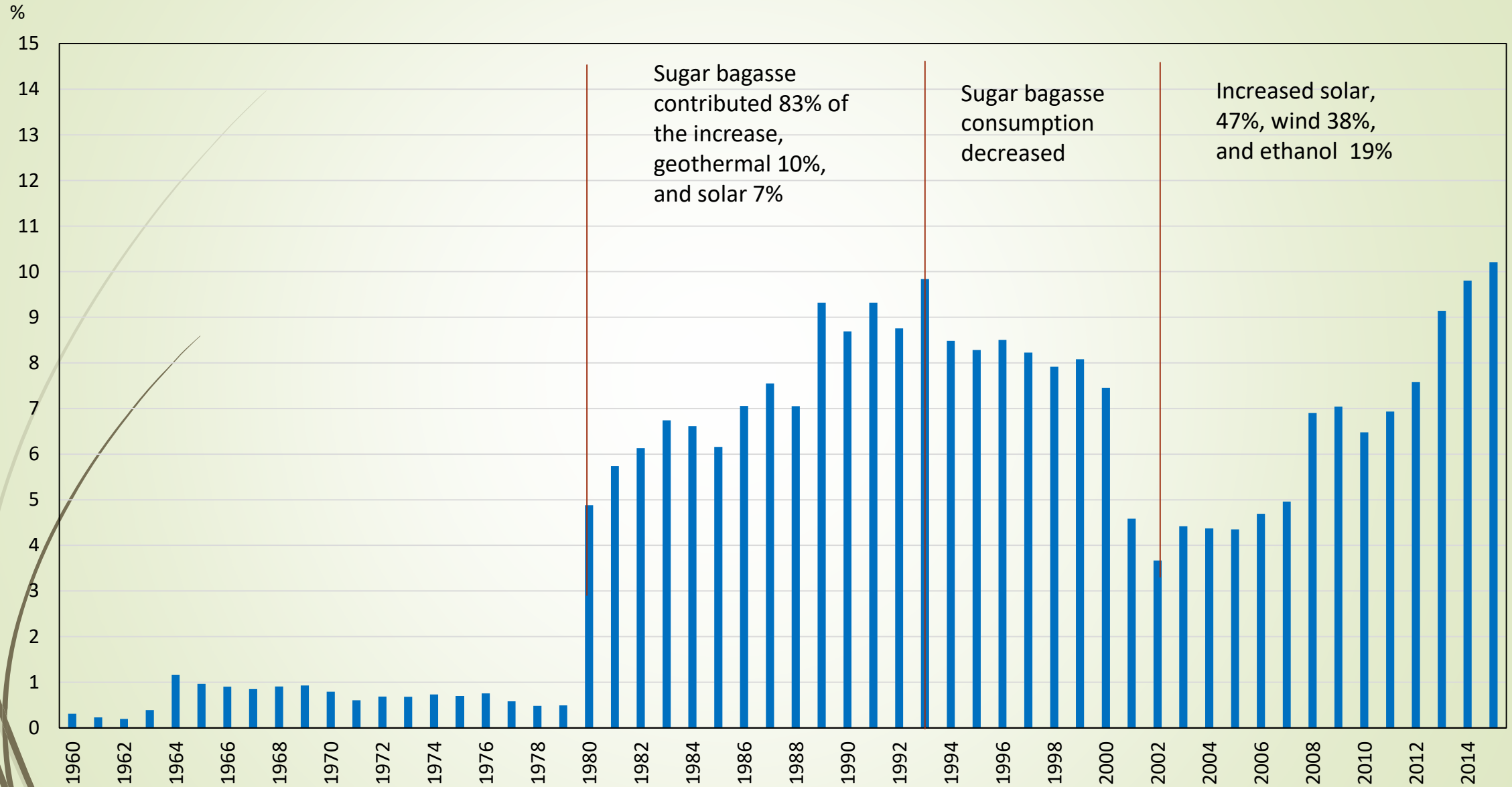
# Per Capita Primary Energy Consumption

Million BTUs



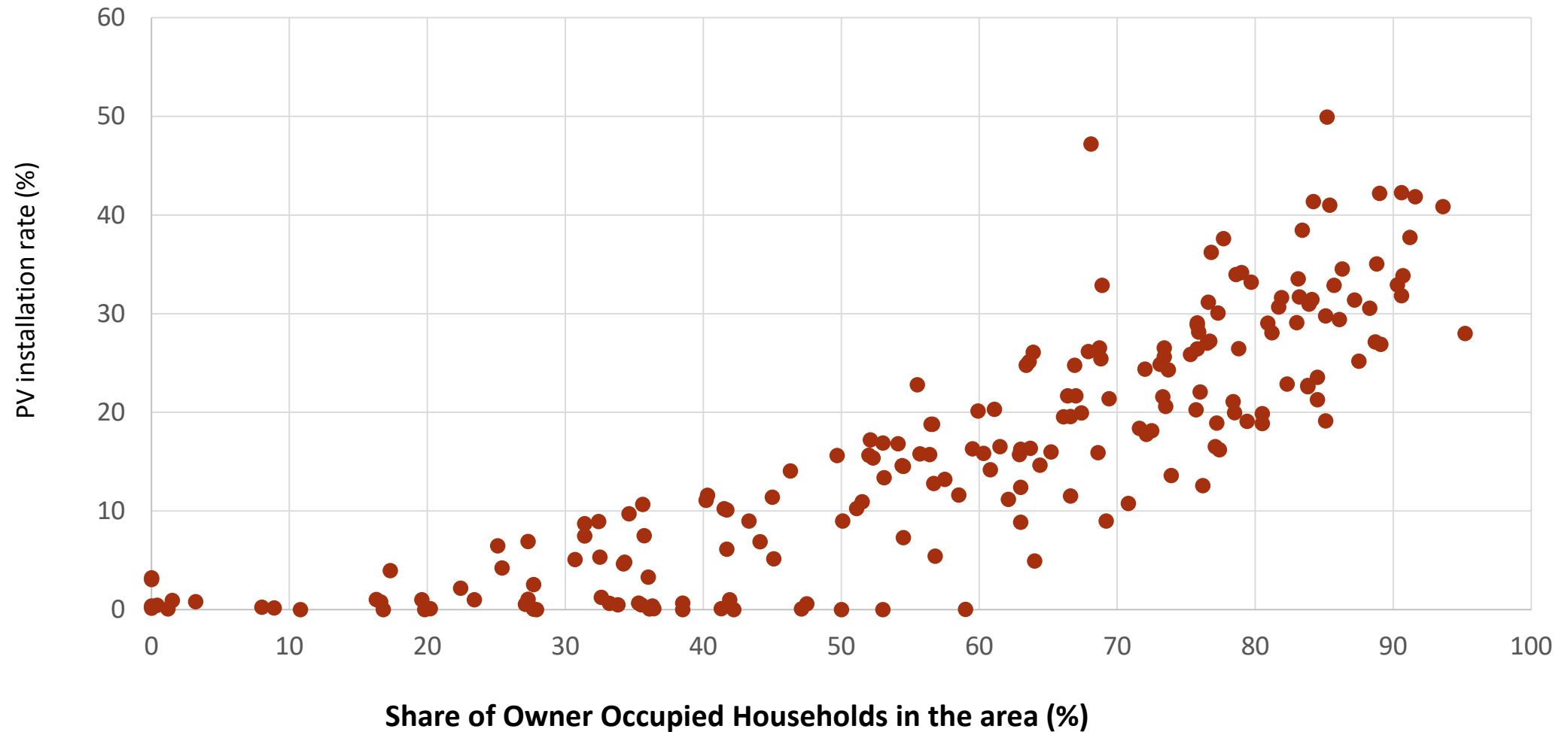
Source: Energy Information Administration, State Energy Data System, DBEDT

# % of Primary Renewable Energy Consumption



Source: Energy Information Administration, State Energy Data System

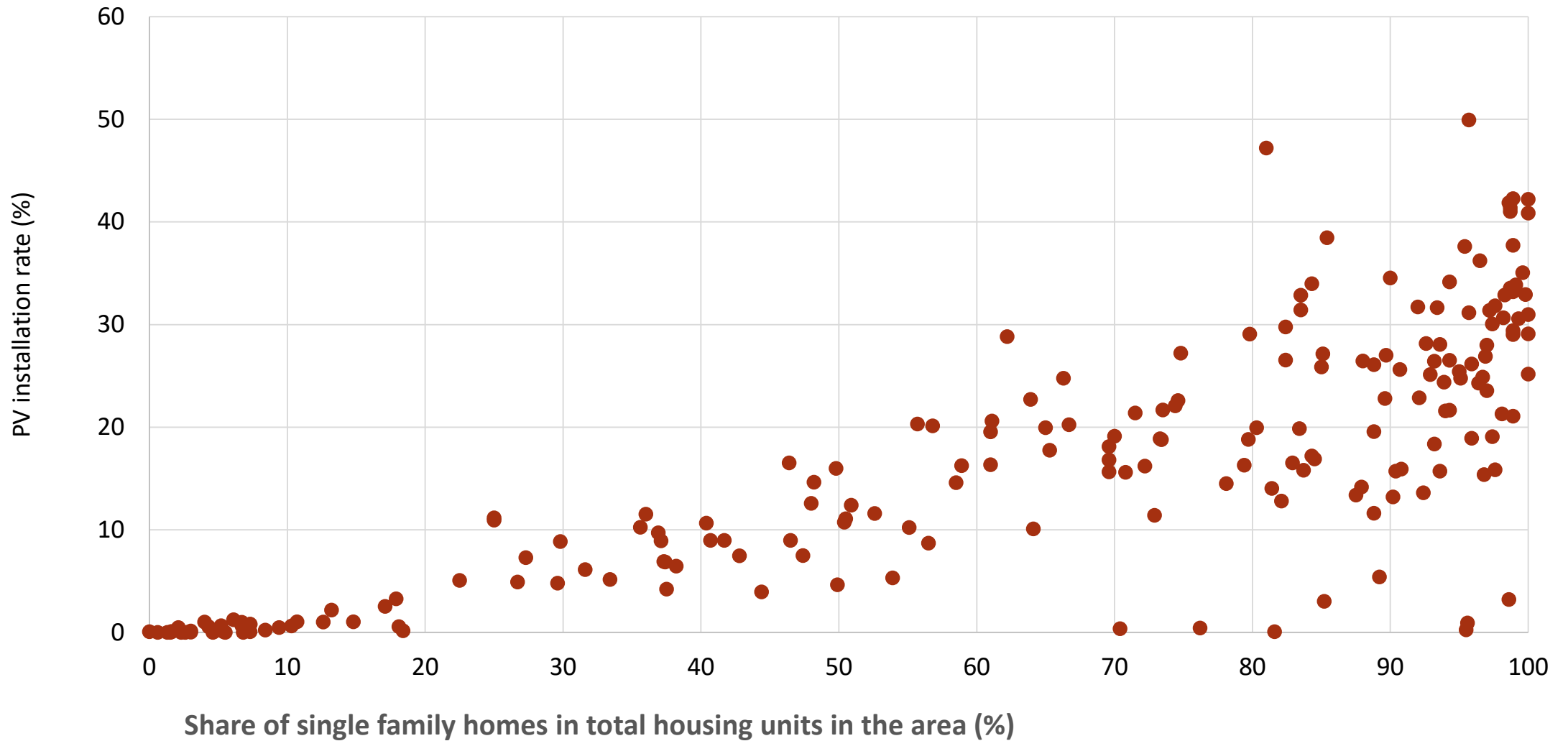
# Home owners have incentives to install PV: Honolulu



1. PV installation rate is calculated as “the share of households with PV installed in total households in the area”

Source: Honolulu DPP and U.S. Census Bureau

## Areas with more single family homes have higher PV penetration rates: Honolulu



1. PV installation rate is calculated as “the share of households with PV installed in total households in the area”

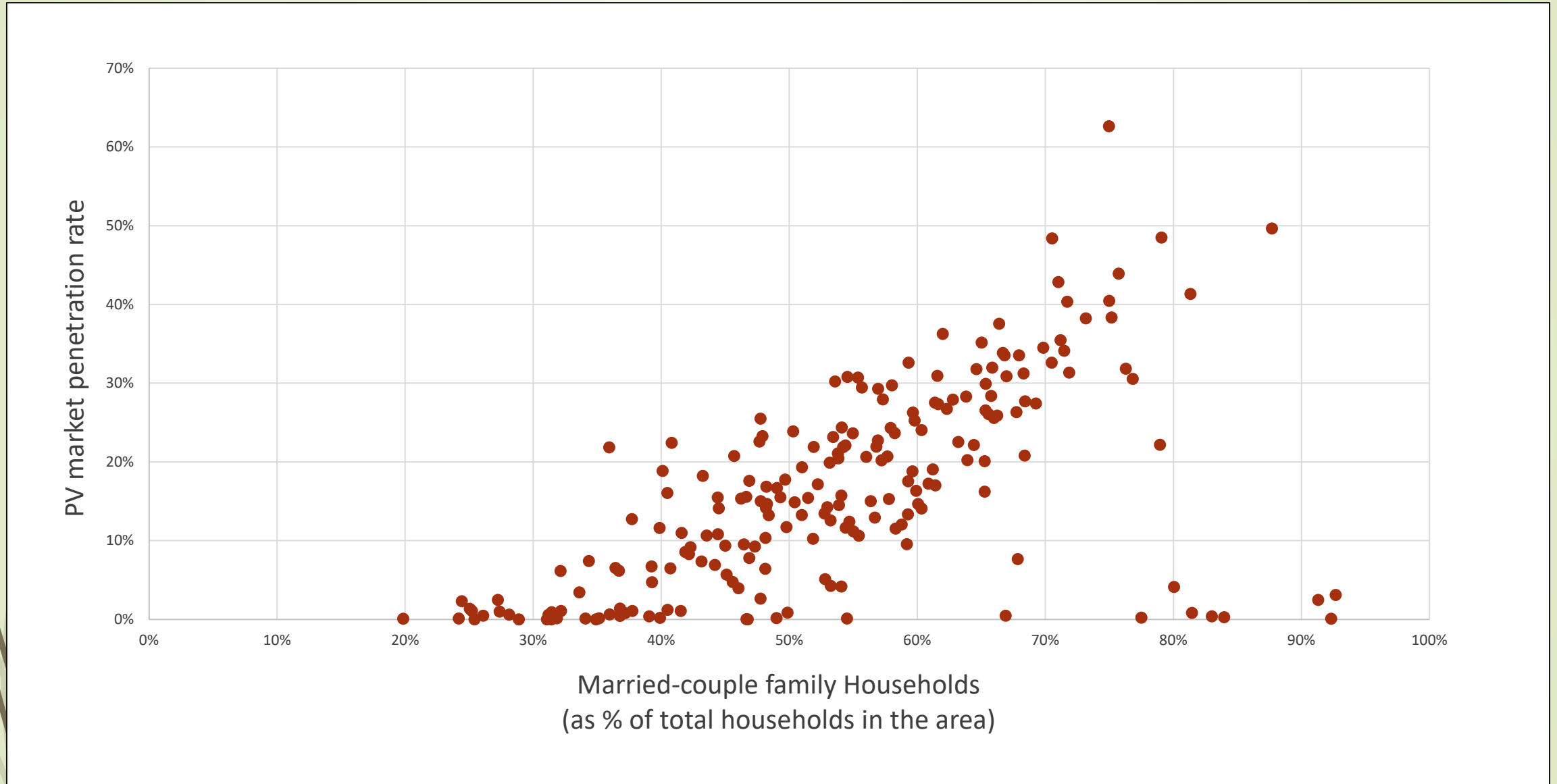
Source: Honolulu DPP and U.S. Census Bureau

# Higher income households tend to install PV: Honolulu



1. PV installation rate is calculated as “the share of households with PV installed in total households in the area”  
Source: Honolulu DPP and U.S. Census Bureau

# Traditional family type of households love to install PV: Honolulu



Source: Honolulu DPP and U.S. Census Bureau



# Summary

Demographic changes in the next 25 years:

- Slower growth in de facto population – both resident population and visitors

- More aged population

- Continued to be low in home ownership

- More people will live alone

Energy efficiency will continue to improve

Total primary energy consumption will be flat or slightly decrease in the next 25 years

Utility scale electricity generation will continue to play important role in the future