A New Comparison of Greenhouse Gas Emissions from California Agricultural and Urban Land Uses

Steve Shaffer & Edward Thompson, Jr. (February 2015)

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Denitrification-Decomposiion Model

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Cool Farm Tool

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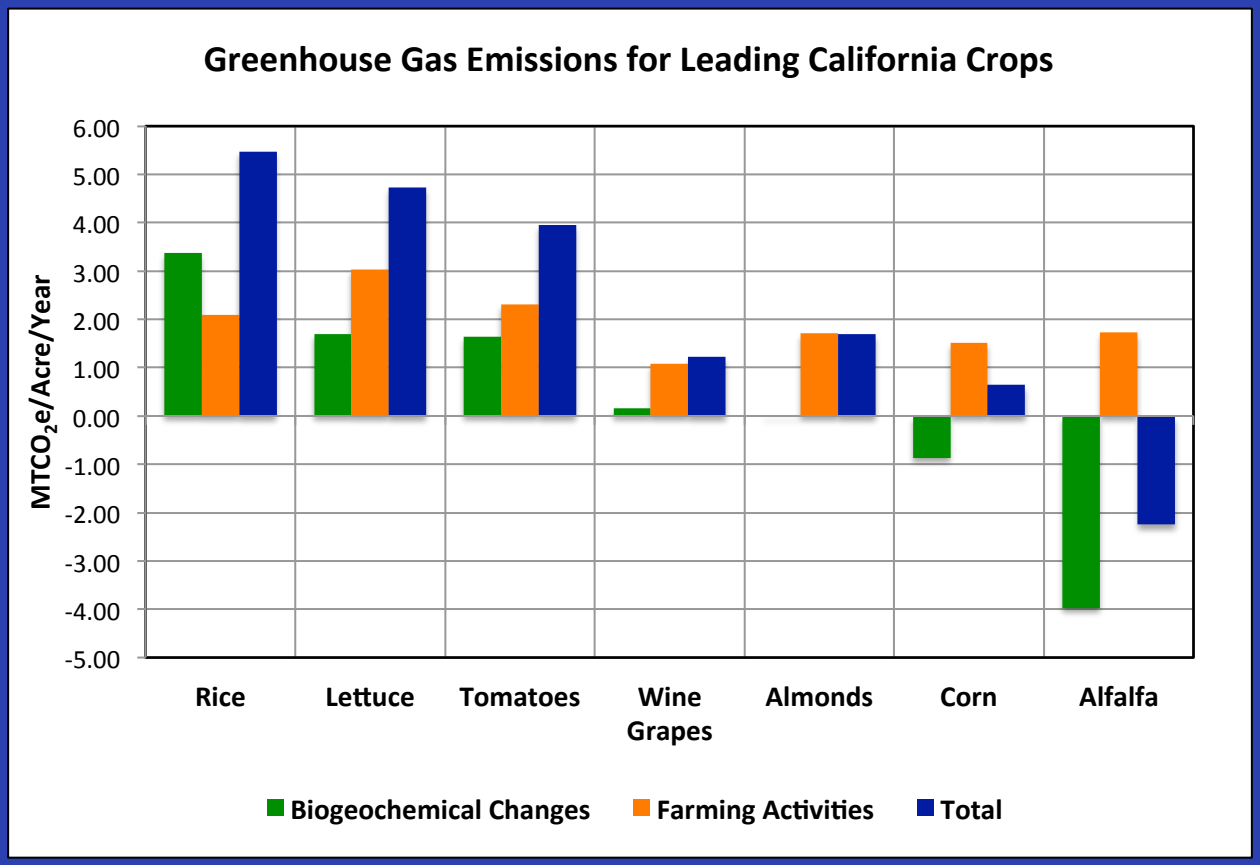

4 million acres = ~50% of California irrigated cropland

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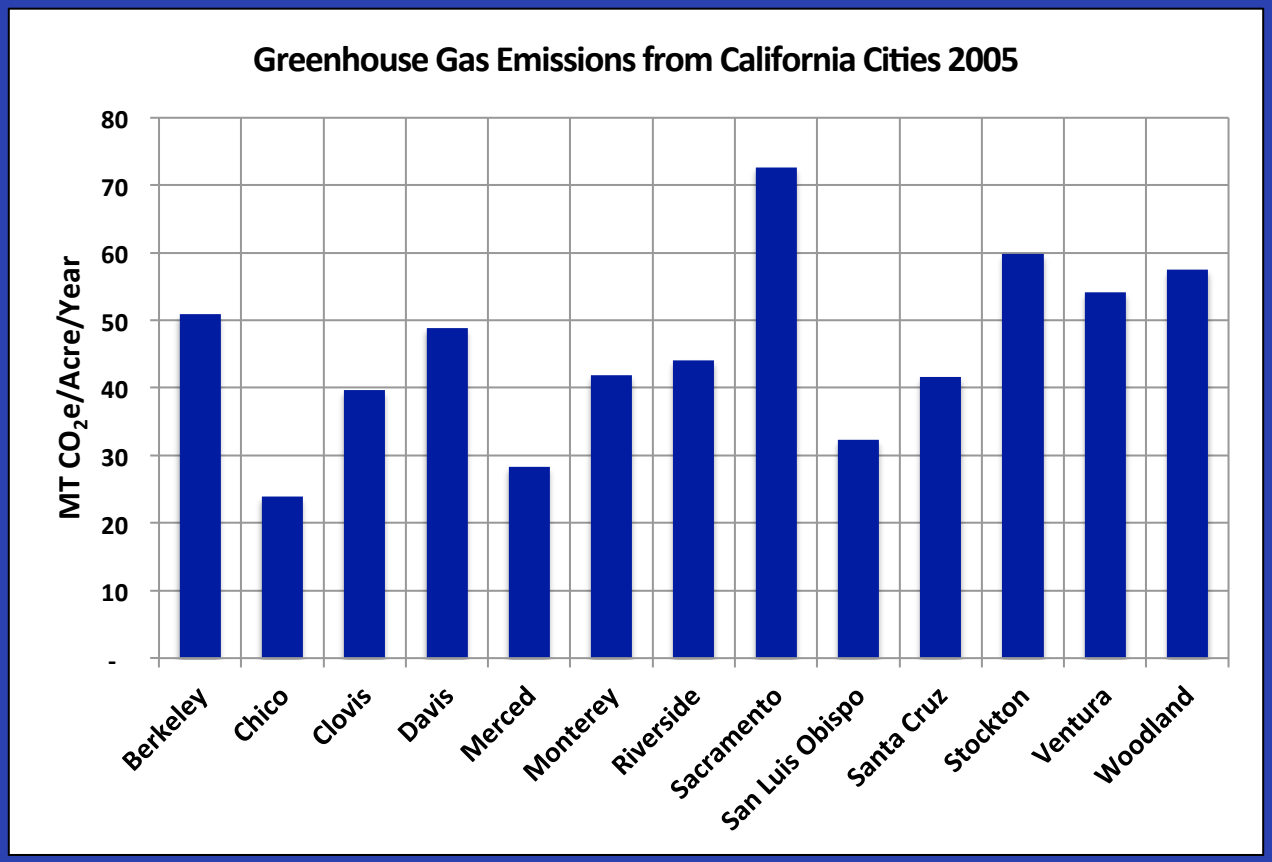

Source: Greenhouse Gas Inventories of Individual Cities

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Comparison

$MTCO_2e$/Acre/Year

	Agriculture	Urban	Multiple
Jackson, et al.	0.81	61.5	70
AFT	0.89	51.0	56

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Annual Climate Impact of Farmland Urbanization

Acres Developed	39,500
Increase in Tons of CO_2	1.98 million
= Number of Vehicles	390,400
= Vehicle Miles Travelled	4.7 billion

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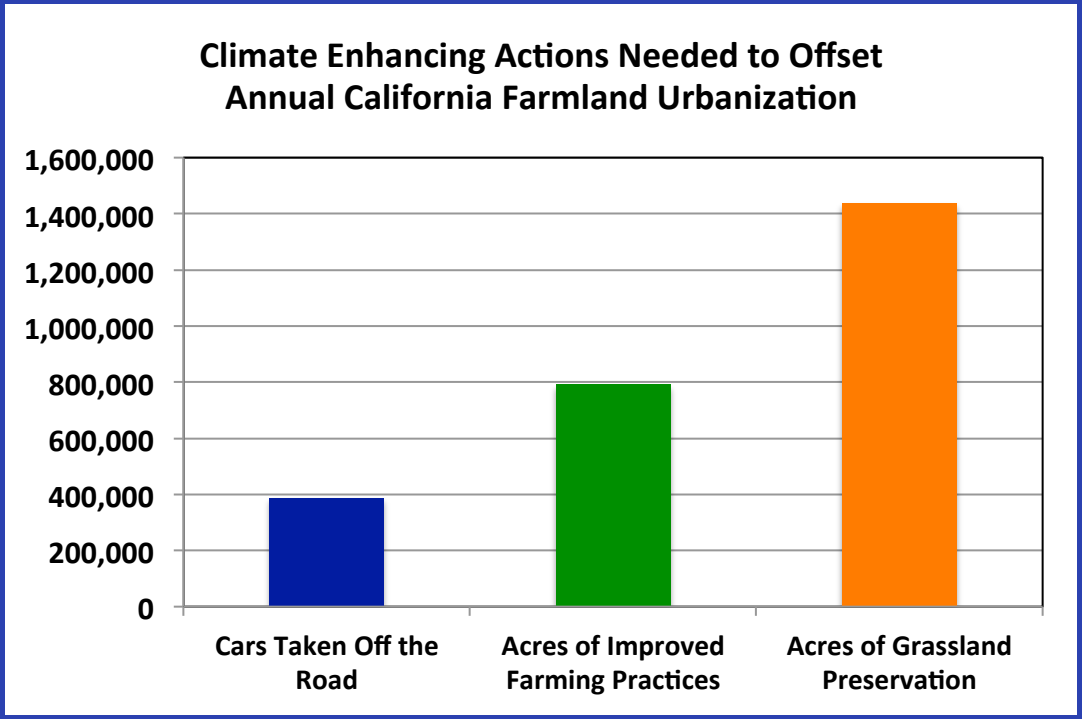

Climate gains from reducing VMT, improved farming practices and preservation of grasslands are being negated by conversion of cropland to urban uses.

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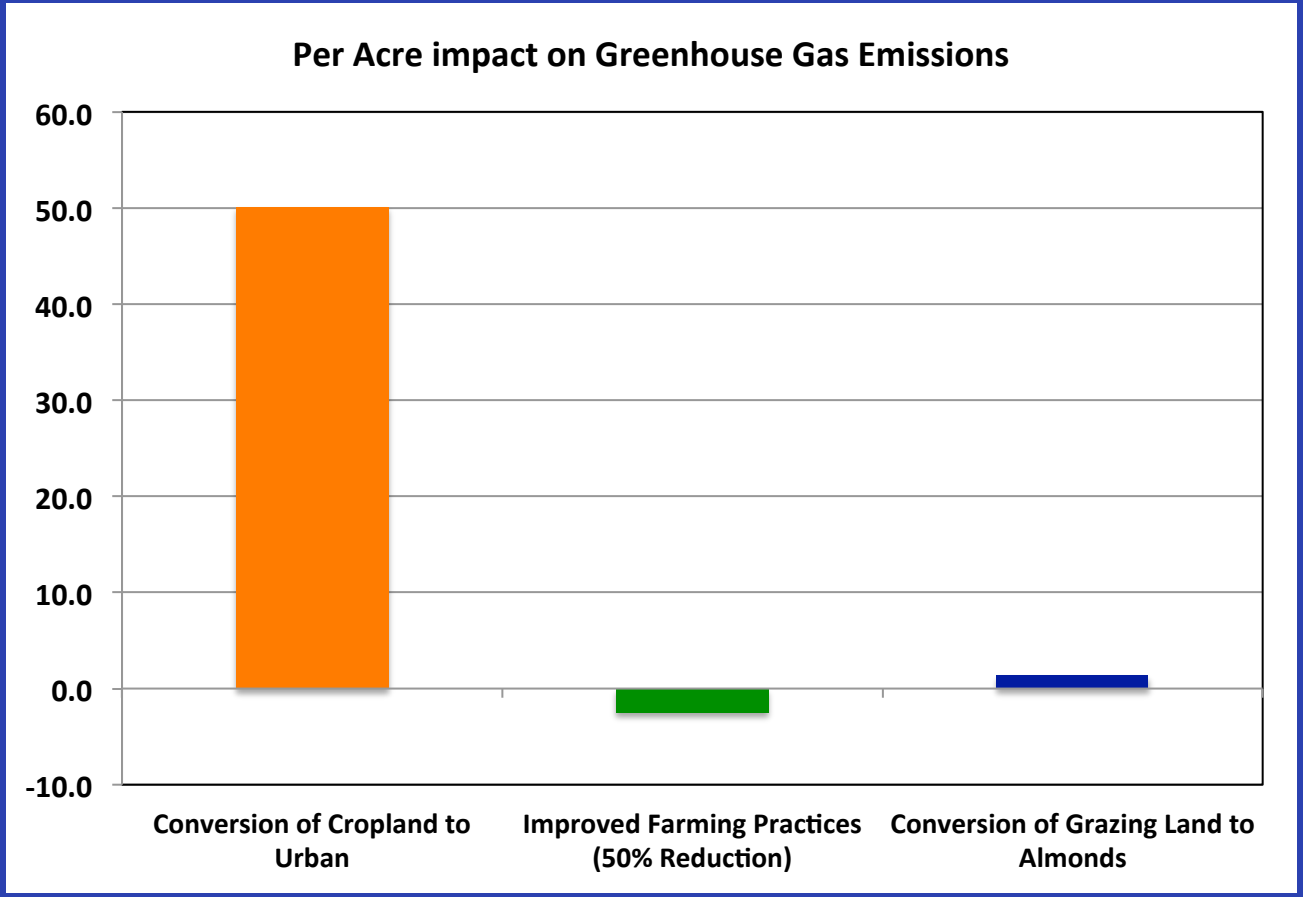
Relative Impact of Changes in Agricultural Land Uses



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Conserving farmland is one of the most important things we can do to ameliorate climate change. Indeed, it is essential to secure the benefits of other climate actions.

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Policies Innovations to Conserve Farmland

- Greenprinting
- Farmland Mitigation (Density Based)
- Sustainable Agricultural Land Conservation Program

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