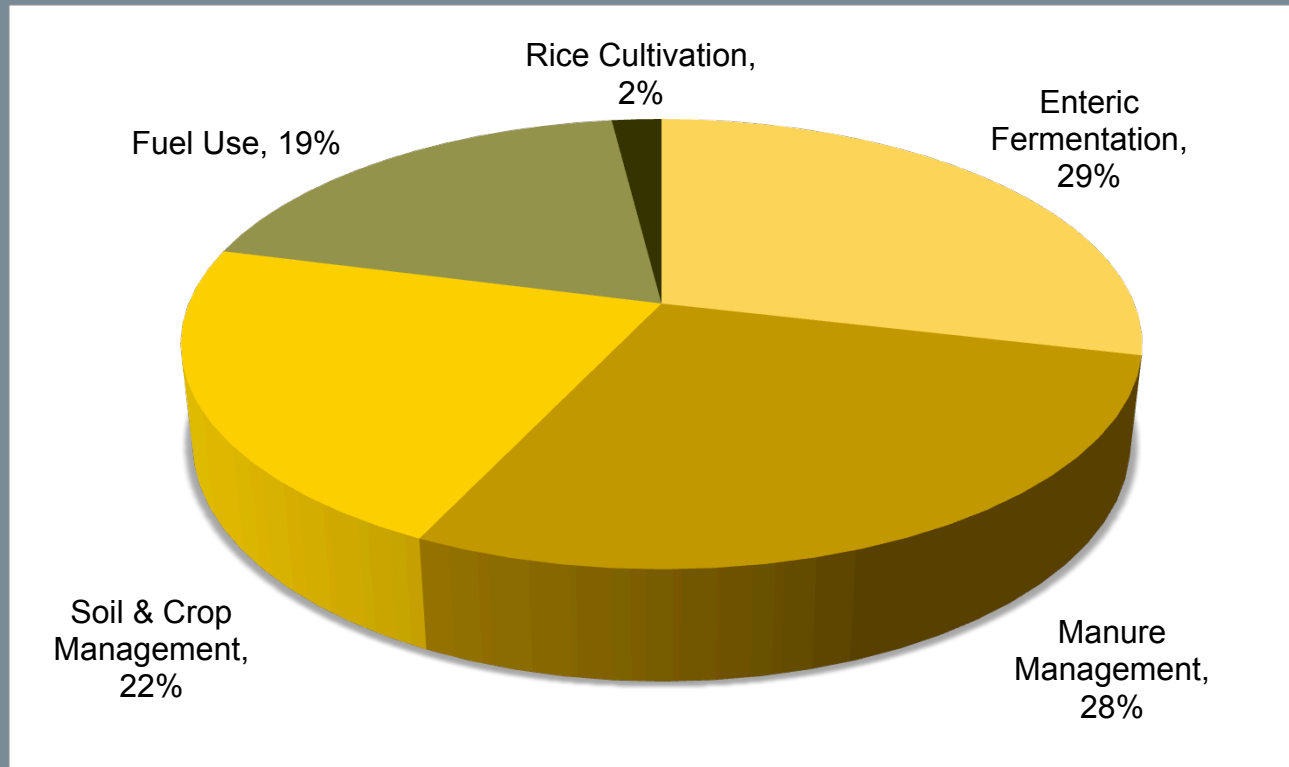


Climate Change, Agriculture & California Policy

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CA Agriculture GHG Emissions



Source: California Air Resources Board
http://www.arb.ca.gov/app/ghg/2000_2006/ghg_sector_data.php

Climate Change Impacts

#1 impact in California: Water
Either too much or too little



Other Impacts

- Yield reductions; shifting crop patterns
- Increased /shifting pest & disease pressures
- Reduced winter chill hours
- Erratic & extreme weather events
- Heat stress for humans & livestock
- Economic vulnerability



Food Security Issues

Consider:

Agriculture is a \$43 billion industry, plus multiplier effects on the economy and jobs.

California produces about half the country's dairy, vegetables fruits, nuts.

As fossil fuels, transportation and energy increase in cost, food access will become an issue for the most vulnerable.



Ag's Climate Solutions

- ⦿ Increase soil organic matter:
 - Reduce use of synthetic fertilizers
 - Cover cropping
 - Reduced tillage
- ⦿ Conserve energy & water
- ⦿ Perennial crops
- ⦿ Forests, hedgerows, riparian plantings
- ⦿ Produce renewable energy
- ⦿ Farmland protection



With what resources?

How can we make the necessary investments in California agriculture?

- ◉ Diminishing government resources
- ◉ Conversion of farmland to urban and other uses
- ◉ Insufficient California-specific research
- ◉ Lack of a state-level incentives program

Policy Tools

1. Remove barriers to on-farm renewable energy
2. Farmland protection
3. AB 32 and cap-and-trade



On-Farm Renewable Energy

- Improve energy and water efficiency
- Remove barriers to on-farm distributed RE
- Consider use of agricultural waste for clean energy



Protecting Farmland

- Mitigate development threats from:
 - Urban sprawl
 - Utility-scale solar farms
 - High speed rail
 - Fracking



Cap-and-Trade

1. Private market:
Carbon offsets
2. Public funds:
Allowance revenue



Cap-and-Trade

Public investments in the climate solutions of sustainable agriculture:

1. Research
2. Technical assistance
3. Cost share & grant programs for growers
4. Farmland protection funds

California Climate & Agriculture Network



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