

Appendix P

Agriculture Segment Optimization Plan

2011-2012

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Background

California produces about half of U.S. grown fruits, nuts and vegetables, and its agricultural abundance includes more than 400 commodities. Billion-dollar commodities include milk and cream, grapes, nursery products, lettuce, and cattle/calves.

California farmers consume 4 percent of the state's electricity to produce, process, and store food and fiber crops. Although energy accounts for less than 5 to 10 percent of total costs for many farms, increased power rates can still have a major impact because profit margins are extremely low in this segment. Blackouts could also have dire consequences: without power, strawberries can decay rapidly, cows cannot be milked, and chickens can die within 20 minutes.

AG Quick Facts

- California is the largest producer and exporter of agricultural products in the United States with its \$36.2 billion in revenue representing 11.2 percent of the U.S. total.
- California's has 81,700 farms and ranches

AG Program Participation

Sorted by kWh: These 20 NAICS Codes use 86% of AG kWh

Total Agriculture Customers		9,217,970,619	
<u>NAICS</u>	<u>NAICS Description</u>	<u>Annual kWh</u>	<u>%</u>
221310	Water Supply and Irrigation System	3,769,853,341	41%
221320	Sewage Treatment Facilities	733,744,977	8%
112120	Dairy Cattle and Milk Production	614,668,346	7%
311511	FLUID MILK MANUFACTURING	394,715,604	4%
111310	Orange Groves	332,771,821	4%
311513	CHEESE MANUFACTURING	324,212,933	4%
493120	Refrigerated Warehousing and Storage	236,411,081	3%
111998	All Other Miscellaneous Crop Farming	191,049,346	2%
111332	Grape Vineyards	187,322,649	2%
111219	Other Vegetable (except Potato) and Melon Farming	156,908,280	2%
311812	COMMERCIAL BAKERIES	147,423,409	2%
111335	Tree Nut Farming	112,623,752	1%
311412	FROZEN SPECIALTY FOOD MANUFACTURING	109,717,058	1%
311830	TORTILLA MANUFACTURING	104,864,105	1%
115114	Postharvest Crop Activities (except Cotton Ginning)	103,997,268	1%
311520	ICE CREAM AND FROZEN DESSERT MANUFACTURING	95,044,405	1%
111421	Nursery and Tree Production	92,406,198	1%
311991	PERISHABLE PREPARED FOOD MANUFACTURING	79,939,054	1%
311411	FROZEN FRUIT, JUICE, AND VEGETABLE PROCESSING	78,851,640	1%
311421	FRUIT AND VEGETABLE CANNING	78,658,227	1%

Includes food processing, storage and water

Purchasing and Energy Management—AG

AG Energy management decisions on farms are generally made on the basis of cost of energy

- For smaller farm operations, the decision is usually the farmer/owner, or a dedicated employee.
- For large operations, there is usually in-house expertise from the corporate office that sorts out which pumps to operate and at what time, to benefit from rate differentials and related aspects.