

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.