

# Food Service Subcommittee

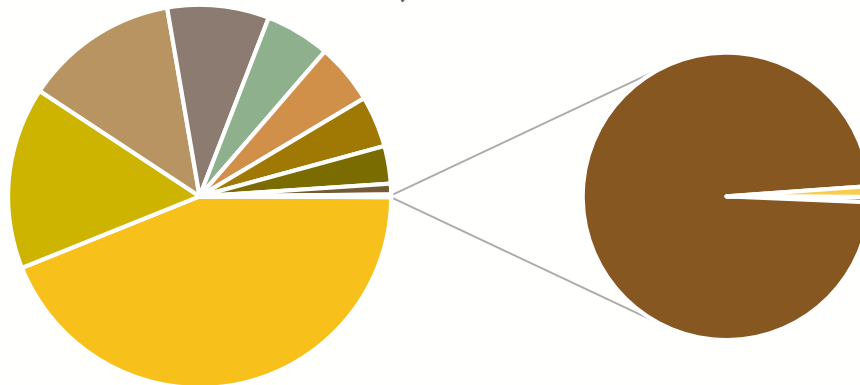


**AYAD AL-SHAIKH**  
**APRIL 2017**

# Food Services Category

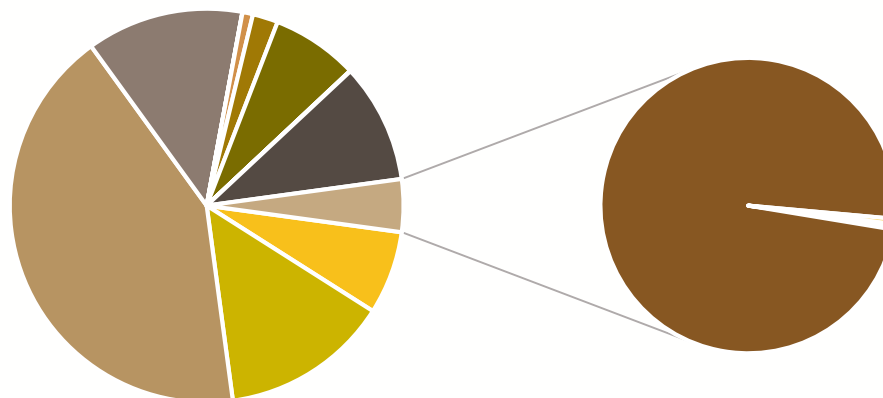
2

2013-15 - EESat Data  
Total: 5,413.2 GWh



**Food Service  
Commercial,**  
7.359 GWh,  
0.14%

2013-15 - EESat Data  
Total: 131.586 MMTh



**Food Service  
Commercial,**  
6.515 MMTh,  
4%

**2016 Data:**  
0.18% of GWh  
8.4% of Therms

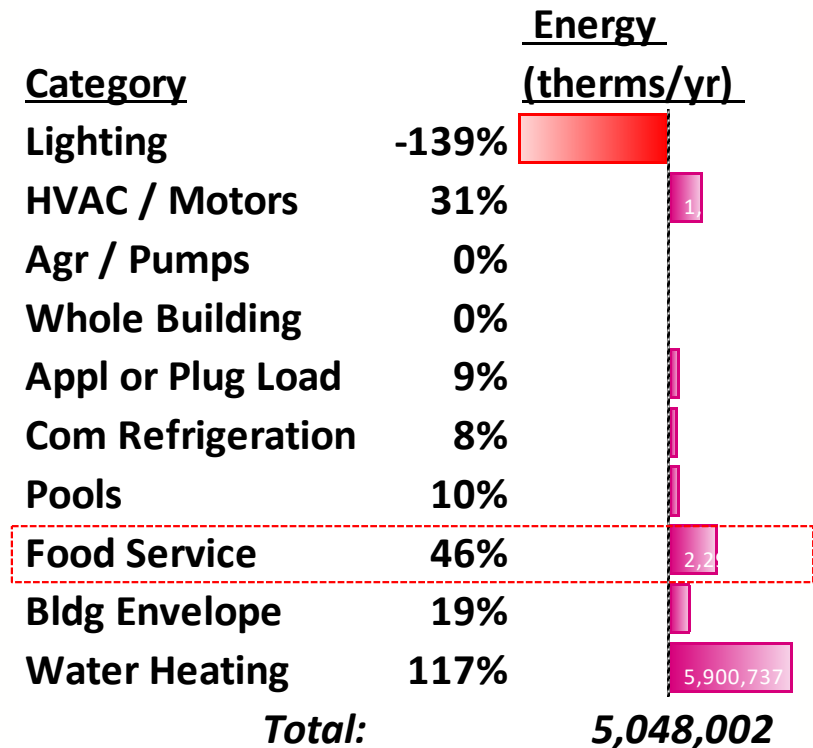
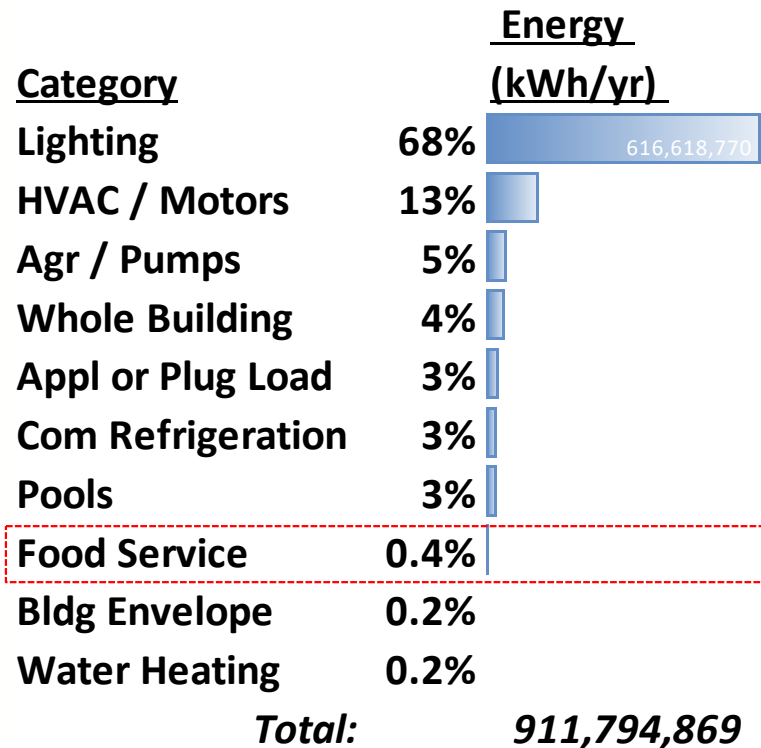
# Participation Primarily Through Core Deemed Programs

3

EndUse	PA	ProgramName	Sum of Gross GWh	Sum of Gross MW	Sum of Gross MMTh
Food Service	SDGE	SW-COM Direct Install	-	-	0.00
		SW-COM-Deemed Incentives-Commercial Rebates	0.04	0.01	0.07
		SW-IND-Deemed Incentives	0.00	0.00	-
	SCG	3P-IDEEA365-Instant Rebates! Point-of-Sale Foodservice	-	-	0.59
		3P-PREPPS	-	-	0.01
		COM-Deemed Incentives	-	-	0.87
		IND-Deemed Incentives	-	-	0.03
		RES-MFEER	-	-	0.00
		RES-Plug Load and Appliances	-	-	0.00
		RES-Plug Load and Appliances - POS	-	-	0.02
	SCE	Commercial Calculated Program	0.11	0.02	-
		Commercial Deemed Incentives Program	1.38	0.29	-
		Savings By Design	0.18	0.05	-
	PGE	Agricultural Deemed Incentives	0.01	0.00	0.01
		Commercial Deemed Incentives	0.74	0.14	0.63
		Hospitality Program	0.22	0.03	0.01
		School Energy Efficiency	-	-	0.01
Grand Total			2.68	0.53	2.25

# Food Services Category

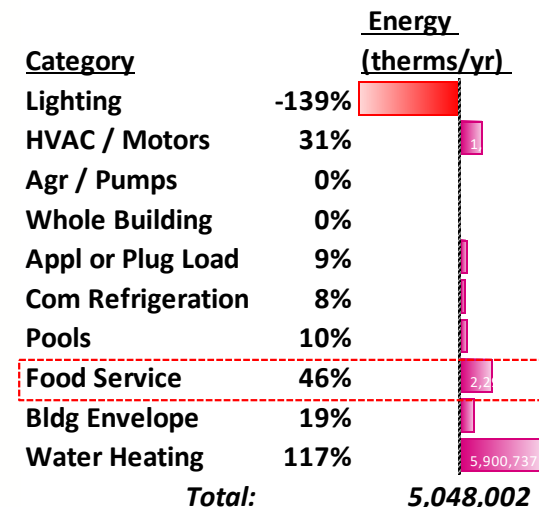
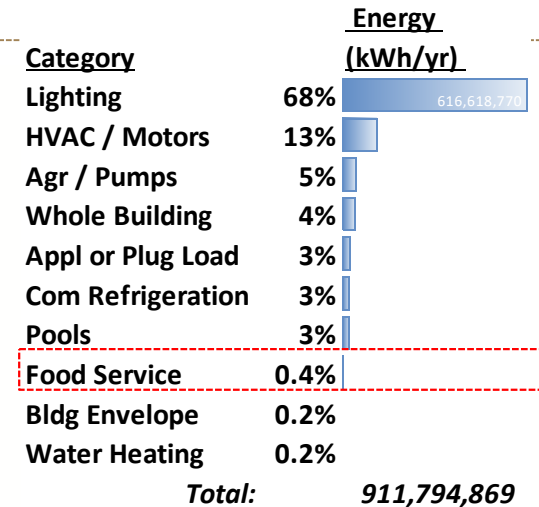
4



# Food Services Category

5

Ref No	Name	Units Installed	Total Energy (kWh/yr)	Total Energy (therm/yr)
2.01	Commercial Convection Oven	716	65,206	232,905
2.02	Commercial Dishwashers	1,037	0	34,221
2.03	Commercial Combination Oven	244	1,279,694	145,140
2.04	Commercial Griddles	162	33,050	17,258
2.05	Commercial Steamers	37	373,932	66,727
2.06	Commercial Ice Machines	408	479,875	0
2.07	Insulated Hot Food Holding Cabinets	354	752,758	0
2.08	Commercial Conveyor Oven-Gas	14	0	12,376
2.11	Gas & Electric Fryers	2,288	18,747	1,535,209
2.12	Exhaust Hood Demand Controlled Ventilation	218	936,077	21,772
2.13	Low-Flow Pre-Rinse Spray Valves Direct Insta	1,328	0	48,395
2.14	Rack Oven	104	0	218,816
2.16	Reach in RefFreezer	6,004	5,052,745	0
<b>Grand Total</b>		<b>1,594,703</b>	<b>1,399,584</b>	<b>4,988,132</b>



# Food Services Category

7

Ref No	Name	Units Installed	Total Energy (kWh/yr)	Total Energy (therm/yr)
★ 2.01	Commercial Convection Oven	716	65,206	232,905
★ 2.02	Commercial Dishwashers	1,037	0	34,221
★ 2.03	Commercial Combination Oven	244	1,279,694	145,140
★ 2.04	Commercial Griddles	162	33,050	17,258
★ 2.05	Commercial Steamers	37	373,932	66,727
★ 2.06	Commercial Ice Machines	408	479,875	0
★ 2.07	Insulated Hot Food Holding Cabinets	354	752,758	0
★ 2.08	Commercial Conveyor Oven-Gas	14	0	12,376
★ 2.09	Commercial Electric Deck Oven			
★ 2.10	Commercial Hand Wrap Machines			
★ 2.11	Gas & Electric Fryers	2,288	18,747	1,535,209
★ 2.12	Exhaust Hood Demand Controlled Ventilation	218	936,077	21,772
★ 2.13	Low-Flow Pre-Rinse Spray Valves Direct Insta	1,328	0	48,395
2.14	Rack Oven	104	0	218,816
2.15	Finned-Bottom Stock Pot			
★ 2.16	Reach in RefFreezer	6,004	5,052,745	0
2.17	Commercial Pressure Fryer			
★ 2.18	Com High Density Universal Holding Cabinets			
<b>Grand Total</b>		<b>1,594,703</b>	<b>1,399,584</b>	<b>4,988,132</b>

Full-Size Convection Oven



# Food Services Category

Ref No	Name	Units Installed	Total Energy (kWh/yr)	Total Energy (therm/yr)
★ 2.01	Commercial Convection Oven	716	65,206	232,905
★ 2.02	Commercial Dishwashers	1,037	0	34,221
★ 2.03	Commercial Combination Oven	244	1,279,694	145,140
★ 2.04	Commercial Griddles	162	33,050	17,258
★ 2.05	Commercial Steamers	37	373,932	66,727
★ 2.06	Commercial Ice Machines	408	479,875	0
★ 2.07	Insulated Hot Food Holding Cabinets	354	752,758	0
★ 2.08	Commercial Conveyor Oven-Gas	14	0	12,376
★ 2.09	Commercial Electric Deck Oven			
★ 2.10	Commercial Hand Wrap Machines			
★ 2.11	Gas & Electric Fryers	2,288	18,747	1,535,209
★ 2.12	Exhaust Hood Demand Controlled Ventilation	218	936,077	21,772
★ 2.13	Low-Flow Pre-Rinse Spray Valves Direct Insta	1,328	0	48,395
2.14	Rack Oven	104	0	218,816
2.15	Finned-Bottom Stock Pot			
★ 2.16	Reach in RefFreezer	6,004	5,052,745	0
2.17	Commercial Pressure Fryer			
★ 2.18	Com High Density Universal Holding Cabinets			
<b>Grand Total</b>		<b>1,594,703</b>	<b>1,399,584</b>	<b>4,988,132</b>



Jackson Tempstar® Ventless  
Door-Type Dishwashing Machine

# Food Services Category

9

Ref No	Name	Units Installed	Total Energy (kWh/yr)	Total Energy (therm/yr)
★ 2.01	Commercial Convection Oven	716	65,206	232,905
★ 2.02	Commercial Dishwashers	1,037	0	34,221
★ 2.03	Commercial Combination Oven	244	1,279,694	145,140
★ 2.04	Commercial Griddles	162	33,050	17,258
★ 2.05	Commercial Steamers	37	373,932	66,727
★ 2.06	Commercial Ice Machines	408	479,875	0
★ 2.07	Insulated Hot Food Holding Cabinets	354	752,758	0
★ 2.08	Commercial Conveyor Oven-Gas	14	0	12,376
★ 2.09	Commercial Electric Deck Oven			
★ 2.10	Commercial Hand Wrap Machines			
★ 2.11	Gas & Electric Fryers	2,288	18,747	1,535,209
★ 2.12	Exhaust Hood Demand Controlled Ventilation	218	936,077	21,772
★ 2.13	Low-Flow Pre-Rinse Spray Valves Direct Insta	1,328	0	48,395
2.14	Rack Oven	104	0	218,816
2.15	Finned-Bottom Stock Pot			
★ 2.16	Reach in RefFreezer	6,004	5,052,745	0
2.17	Commercial Pressure Fryer			
★ 2.18	Com High Density Universal Holding Cabinets			
<b>Grand Total</b>		<b>1,594,703</b>	<b>1,399,584</b>	<b>4,988,132</b>

Combination Oven:





# Food Services Category

10

Ref No	Name	Units Installed	Total Energy (kWh/yr)	Total Energy (therm/yr)
★ 2.01	Commercial Convection Oven	716	65,206	232,905
★ 2.02	Commercial Dishwashers	1,037	0	34,221
★ 2.03	Commercial Combination Oven	244	1,279,694	145,140
★ 2.04	Commercial Griddles	162	33,050	17,258
★ 2.05	Commercial Steamers	37	373,932	66,727
★ 2.06	Commercial Ice Machines	408	479,875	0
★ 2.07	Insulated Hot Food Holding Cabinets	354	752,758	0
★ 2.08	Commercial Conveyor Oven-Gas	14	0	12,376
★ 2.09	Commercial Electric Deck Oven			
★ 2.10	Commercial Hand Wrap Machines			
★ 2.11	Gas & Electric Fryers	2,288	18,747	1,535,209
★ 2.12	Exhaust Hood Demand Controlled Ventilation	218	936,077	21,772
★ 2.13	Low-Flow Pre-Rinse Spray Valves Direct Insta	1,328	0	48,395
2.14	Rack Oven	104	0	218,816
2.15	Finned-Bottom Stock Pot			
★ 2.16	Reach in RefFreezer	6,004	5,052,745	0
2.17	Commercial Pressure Fryer			
★ 2.18	Com High Density Universal Holding Cabinets			
<b>Grand Total</b>		<b>1,594,703</b>	<b>1,399,584</b>	<b>4,988,132</b>



\* Images are the courtesy of PG&E Food Service Technology Center and Fisher Nickel  
(Images are examples of technology, but not intended as a product endorsement.)

# Food Services Category

11

Ref No	Name	Units Installed	Total Energy (kWh/yr)	Total Energy (therm/yr)
★ 2.01	Commercial Convection Oven	716	65,206	232,905
★ 2.02	Commercial Dishwashers	1,037	0	34,221
★ 2.03	Commercial Combination Oven	244	1,279,694	145,140
★ 2.04	Commercial Griddles	162	33,050	17,258
★ 2.05	Commercial Steamers	37	373,932	66,727
★ 2.06	Commercial Ice Machines	408	479,875	0
★ 2.07	Insulated Hot Food Holding Cabinets	354	752,758	0
★ 2.08	Commercial Conveyor Oven-Gas	14	0	12,376
★ 2.09	Commercial Electric Deck Oven			
★ 2.10	Commercial Hand Wrap Machines			
★ 2.11	Gas & Electric Fryers	2,288	18,747	1,535,209
★ 2.12	Exhaust Hood Demand Controlled Ventilation	218	936,077	21,772
★ 2.13	Low-Flow Pre-Rinse Spray Valves Direct Insta	1,328	0	48,395
2.14	Rack Oven	104	0	218,816
2.15	Finned-Bottom Stock Pot			
★ 2.16	Reach in RefFreezer	6,004	5,052,745	0
2.17	Commercial Pressure Fryer			
★ 2.18	Com High Density Universal Holding Cabinets			
<b>Grand Total</b>		<b>1,594,703</b>	<b>1,399,584</b>	<b>4,988,132</b>



# Food Services Category

12

Ref No	Name	Units Installed	Total Energy (kWh/yr)	Total Energy (therm/yr)
★ 2.01	Commercial Convection Oven	716	65,206	232,905
★ 2.02	Commercial Dishwashers	1,037	0	34,221
★ 2.03	Commercial Combination Oven	244	1,279,694	145,140
★ 2.04	Commercial Griddles	162	33,050	17,258
★ 2.05	Commercial Steamers	37	373,932	66,727
★ 2.06	Commercial Ice Machines	408	479,875	0
★ 2.07	Insulated Hot Food Holding Cabinets	354	752,758	0
★ 2.08	Commercial Conveyor Oven-Gas	14	0	12,376
★ 2.09	Commercial Electric Deck Oven			
★ 2.10	Commercial Hand Wrap Machines			
★ 2.11	Gas & Electric Fryers	2,288	18,747	1,535,209
★ 2.12	Exhaust Hood Demand Controlled Ventilation	218	936,077	21,772
★ 2.13	Low-Flow Pre-Rinse Spray Valves Direct Insta	1,328	0	48,395
2.14	Rack Oven	104	0	218,816
2.15	Finned-Bottom Stock Pot			
★ 2.16	Reach in RefFreezer	6,004	5,052,745	0
2.17	Commercial Pressure Fryer			
★ 2.18	Com High Density Universal Holding Cabinets			
<b>Grand Total</b>		<b>1,594,703</b>	<b>1,399,584</b>	<b>4,988,132</b>



\* Images are the courtesy of PG&E Food Service Technology Center and Fisher Nickel  
(Images are examples of technology, but not intended as a product endorsement.)

# Food Services Category

13

Ref No	Name	Units Installed	Total Energy (kWh/yr)	Total Energy (therm/yr)
★ 2.01	Commercial Convection Oven	716	65,206	232,905
★ 2.02	Commercial Dishwashers	1,037	0	34,221
★ 2.03	Commercial Combination Oven	244	1,279,694	145,140
★ 2.04	Commercial Griddles	162	33,050	17,258
★ 2.05	Commercial Steamers	37	373,932	66,727
★ 2.06	Commercial Ice Machines	408	479,875	0
★ 2.07	Insulated Hot Food Holding Cabinets	354	752,758	0
★ 2.08	Commercial Conveyor Oven-Gas	14	0	12,376
★ 2.09	Commercial Electric Deck Oven			
★ 2.10	Commercial Hand Wrap Machines			
★ 2.11	Gas & Electric Fryers	2,288	18,747	1,535,209
★ 2.12	Exhaust Hood Demand Controlled Ventilation	218	936,077	21,772
★ 2.13	Low-Flow Pre-Rinse Spray Valves Direct Insta	1,328	0	48,395
2.14	Rack Oven	104	0	218,816
2.15	Finned-Bottom Stock Pot			
★ 2.16	Reach in RefFreezer	6,004	5,052,745	0
2.17	Commercial Pressure Fryer			
★ 2.18	Com High Density Universal Holding Cabinets			
<b>Grand Total</b>		<b>1,594,703</b>	<b>1,399,584</b>	<b>4,988,132</b>



\* Images are the courtesy of PG&E Food Service Technology Center and Fisher Nickel  
(Images are examples of technology, but not intended as a product endorsement.)

# Food Services Category

14

Ref No	Name	Units Installed	Total Energy (kWh/yr)	Total Energy (therm/yr)
★ 2.01	Commercial Convection Oven	716	65,206	232,905
★ 2.02	Commercial Dishwashers	1,037	0	34,221
★ 2.03	Commercial Combination Oven	244	1,279,694	145,140
★ 2.04	Commercial Griddles	162	33,050	17,258
★ 2.05	Commercial Steamers	37	373,932	66,727
★ 2.06	Commercial Ice Machines	408	479,875	0
★ 2.07	Insulated Hot Food Holding Cabinets	354	752,758	0
★ 2.08	Commercial Conveyor Oven-Gas	14	0	12,376
★ 2.09	Commercial Electric Deck Oven			
★ 2.10	Commercial Hand Wrap Machines			
★ 2.11	Gas & Electric Fryers	2,288	18,747	1,535,209
★ 2.12	Exhaust Hood Demand Controlled Ventilation	218	936,077	21,772
★ 2.13	Low-Flow Pre-Rinse Spray Valves Direct Insta	1,328	0	48,395
2.14	Rack Oven	104	0	218,816
2.15	Finned-Bottom Stock Pot			
★ 2.16	Reach in RefFreezer	6,004	5,052,745	0
2.17	Commercial Pressure Fryer			
★ 2.18	Com High Density Universal Holding Cabinets			
<b>Grand Total</b>		<b>1,594,703</b>	<b>1,399,584</b>	<b>4,988,132</b>

XL T X3F 3240 Conveyor Oven



# Food Services Category

15

Ref No	Name	Units Installed	Total Energy (kWh/yr)	Total Energy (therm/yr)
★ 2.01	Commercial Convection Oven	716	65,206	232,905
★ 2.02	Commercial Dishwashers	1,037	0	34,221
★ 2.03	Commercial Combination Oven	244	1,279,694	145,140
★ 2.04	Commercial Griddles	162	33,050	17,258
★ 2.05	Commercial Steamers	37	373,932	66,727
★ 2.06	Commercial Ice Machines	408	479,875	0
★ 2.07	Insulated Hot Food Holding Cabinets	354	752,758	0
★ 2.08	Commercial Conveyor Oven-Gas	14	0	12,376
★ 2.09	Commercial Electric Deck Oven			
★ 2.10	Commercial Hand Wrap Machines			
★ 2.11	Gas & Electric Fryers	2,288	18,747	1,535,209
★ 2.12	Exhaust Hood Demand Controlled Ventilation	218	936,077	21,772
★ 2.13	Low-Flow Pre-Rinse Spray Valves Direct Insta	1,328	0	48,395
2.14	Rack Oven	104	0	218,816
2.15	Finned-Bottom Stock Pot			
★ 2.16	Reach in RefFreezer	6,004	5,052,745	0
2.17	Commercial Pressure Fryer			
★ 2.18	Com High Density Universal Holding Cabinets			
<b>Grand Total</b>		<b>1,594,703</b>	<b>1,399,584</b>	<b>4,988,132</b>





# Food Services Category

16

Ref No	Name	Units Installed	Total Energy (kWh/yr)	Total Energy (therm/yr)
★ 2.01	Commercial Convection Oven	716	65,206	232,905
★ 2.02	Commercial Dishwashers	1,037	0	34,221
★ 2.03	Commercial Combination Oven	244	1,279,694	145,140
★ 2.04	Commercial Griddles	162	33,050	17,258
★ 2.05	Commercial Steamers	37	373,932	66,727
★ 2.06	Commercial Ice Machines	408	479,875	0
★ 2.07	Insulated Hot Food Holding Cabinets	354	752,758	0
★ 2.08	Commercial Conveyor Oven-Gas	14	0	12,376
★ 2.09	Commercial Electric Deck Oven			
★ 2.10	Commercial Hand Wrap Machines			
★ 2.11	Gas & Electric Fryers	2,288	18,747	1,535,209
★ 2.12	Exhaust Hood Demand Controlled Ventilation	218	936,077	21,772
★ 2.13	Low-Flow Pre-Rinse Spray Valves Direct Insta	1,328	0	48,395
2.14	Rack Oven	104	0	218,816
2.15	Finned-Bottom Stock Pot			
★ 2.16	Reach in RefFreezer	6,004	5,052,745	0
2.17	Commercial Pressure Fryer			
★ 2.18	Com High Density Universal Holding Cabinets			
<b>Grand Total</b>		<b>1,594,703</b>	<b>1,399,584</b>	<b>4,988,132</b>



# Food Services Category

17

Ref No	Name	Units Installed	Total Energy (kWh/yr)	Total Energy (therm/yr)
★ 2.01	Commercial Convection Oven	716	65,206	232,905
★ 2.02	Commercial Dishwashers	1,037	0	34,221
★ 2.03	Commercial Combination Oven	244	1,279,694	145,140
★ 2.04	Commercial Griddles	162	33,050	17,258
★ 2.05	Commercial Steamers	37	373,932	66,727
★ 2.06	Commercial Ice Machines	408	479,875	0
★ 2.07	Insulated Hot Food Holding Cabinets	354	752,758	0
★ 2.08	Commercial Conveyor Oven-Gas	14	0	12,376
★ 2.09	Commercial Electric Deck Oven			
★ 2.10	Commercial Hand Wrap Machines			
★ 2.11	Gas & Electric Fryers	2,288	18,747	1,535,209
★ 2.12	Exhaust Hood Demand Controlled Ventilation	218	936,077	21,772
★ 2.13	Low-Flow Pre-Rinse Spray Valves Direct Insta	1,328	0	48,395
2.14	Rack Oven	104	0	218,816
2.15	Finned-Bottom Stock Pot			
★ 2.16	Reach in RefFreezer	6,004	5,052,745	0
2.17	Commercial Pressure Fryer			
★ 2.18	Com High Density Universal Holding Cabinets			
<b>Grand Total</b>		<b>1,594,703</b>	<b>1,399,584</b>	<b>4,988,132</b>





# Food Services Category

18

Ref No	Name	Units Installed	Total Energy (kWh/yr)	Total Energy (therm/yr)
★ 2.01	Commercial Convection Oven	716	65,206	232,905
★ 2.02	Commercial Dishwashers	1,037	0	34,221
★ 2.03	Commercial Combination Oven	244	1,279,694	145,140
★ 2.04	Commercial Griddles	162	33,050	17,258
★ 2.05	Commercial Steamers	37	373,932	66,727
★ 2.06	Commercial Ice Machines	408	479,875	0
★ 2.07	Insulated Hot Food Holding Cabinets	354	752,758	0
★ 2.08	Commercial Conveyor Oven-Gas	14	0	12,376
★ 2.09	Commercial Electric Deck Oven			
★ 2.10	Commercial Hand Wrap Machines			
★ 2.11	Gas & Electric Fryers	2,288	18,747	1,535,209
★ 2.12	Exhaust Hood Demand Controlled Ventilation	218	936,077	21,772
★ 2.13	Low-Flow Pre-Rinse Spray Valves Direct Insta	1,328	0	48,395
2.14	Rack Oven	104	0	218,816
2.15	Finned-Bottom Stock Pot			
★ 2.16	Reach in RefFreezer	6,004	5,052,745	0
2.17	Commercial Pressure Fryer			
★ 2.18	Com High Density Universal Holding Cabinets			
<b>Grand Total</b>		<b>1,594,703</b>	<b>1,399,584</b>	<b>4,988,132</b>



\* Images are the courtesy of PG&E Food Service Technology Center and Fisher Nickel  
(Images are examples of technology, but not intended as a product endorsement.)

# Food Services Category

19

Ref No	Name	Units Installed	Total Energy (kWh/yr)	Total Energy (therm/yr)
★ 2.01	Commercial Convection Oven	716	65,206	232,905
★ 2.02	Commercial Dishwashers	1,037	0	34,221
★ 2.03	Commercial Combination Oven	244	1,279,694	145,140
★ 2.04	Commercial Griddles	162	33,050	17,258
★ 2.05	Commercial Steamers	37	373,932	66,727
★ 2.06	Commercial Ice Machines	408	479,875	0
★ 2.07	Insulated Hot Food Holding Cabinets	354	752,758	0
★ 2.08	Commercial Conveyor Oven-Gas	14	0	12,376
★ 2.09	Commercial Electric Deck Oven			
★ 2.10	Commercial Hand Wrap Machines			
★ 2.11	Gas & Electric Fryers	2,288	18,747	1,535,209
★ 2.12	Exhaust Hood Demand Controlled Ventilation	218	936,077	21,772
★ 2.13	Low-Flow Pre-Rinse Spray Valves Direct Insta	1,328	0	48,395
2.14	Rack Oven	104	0	218,816
2.15	Finned-Bottom Stock Pot			
★ 2.16	Reach in RefFreezer	6,004	5,052,745	0
2.17	Commercial Pressure Fryer			
★ 2.18	Com High Density Universal Holding Cabinets			
<b>Grand Total</b>		<b>1,594,703</b>	<b>1,399,584</b>	<b>4,988,132</b>



# Food Services Category

20

Ref No	Name	Units Installed	Total Energy (kWh/yr)	Total Energy (therm/yr)
★ 2.01	Commercial Convection Oven	716	65,206	232,905
★ 2.02	Commercial Dishwashers	1,037	0	34,221
★ 2.03	Commercial Combination Oven	244	1,279,694	145,140
★ 2.04	Commercial Griddles	162	33,050	17,258
★ 2.05	Commercial Steamers	37	373,932	66,727
★ 2.06	Commercial Ice Machines	408	479,875	0
★ 2.07	Insulated Hot Food Holding Cabinets	354	752,758	0
★ 2.08	Commercial Conveyor Oven-Gas	14	0	12,376
★ 2.09	Commercial Electric Deck Oven			
★ 2.10	Commercial Hand Wrap Machines			
★ 2.11	Gas & Electric Fryers	2,288	18,747	1,535,209
★ 2.12	Exhaust Hood Demand Controlled Ventilation	218	936,077	21,772
★ 2.13	Low-Flow Pre-Rinse Spray Valves Direct Insta	1,328	0	48,395
★ 2.14	Rack Oven	104	0	218,816
★ 2.15	Finned-Bottom Stock Pot			
★ 2.16	Reach in RefFreezer	6,004	5,052,745	0
★ 2.17	Commercial Pressure Fryer			
★ 2.18	Com High Density Universal Holding Cabinets			
<b>Grand Total</b>		<b>1,594,703</b>	<b>1,399,584</b>	<b>4,988,132</b>



# Food Services Category

Ref No	Name	Units Installed	Total Energy (kWh/yr)	Total Energy (therm/yr)
★ 2.01	Commercial Convection Oven	716	65,206	232,905
★ 2.02	Commercial Dishwashers	1,037	0	34,221
★ 2.03	Commercial Combination Oven	244	1,279,694	145,140
★ 2.04	Commercial Griddles	162	33,050	17,258
★ 2.05	Commercial Steamers	37	373,932	66,727
★ 2.06	Commercial Ice Machines	408	479,875	0
★ 2.07	Insulated Hot Food Holding Cabinets	354	752,758	0
★ 2.08	Commercial Conveyor Oven-Gas	14	0	12,376
★ 2.09	Commercial Electric Deck Oven			
★ 2.10	Commercial Hand Wrap Machines			
★ 2.11	Gas & Electric Fryers	2,288	18,747	1,535,209
★ 2.12	Exhaust Hood Demand Controlled Ventilation	218	936,077	21,772
★ 2.13	Low-Flow Pre-Rinse Spray Valves Direct Insta	1,328	0	48,395
2.14	Rack Oven	104	0	218,816
2.15	Finned-Bottom Stock Pot			
★ 2.16	Reach in RefFreezer	6,004	5,052,745	0
2.17	Commercial Pressure Fryer			
★ 2.18	Com High Density Universal Holding Cabinets			
<b>Grand Total</b>		<b>1,594,703</b>	<b>1,399,584</b>	<b>4,988,132</b>



# Food Services Category

22

Ref No	Name	Units Installed	Total Energy (kWh/yr)	Total Energy (therm/yr)
★ 2.01	Commercial Convection Oven	716	65,206	232,905
★ 2.02	Commercial Dishwashers	1,037	0	34,221
★ 2.03	Commercial Combination Oven	244	1,279,694	145,140
★ 2.04	Commercial Griddles	162	33,050	17,258
★ 2.05	Commercial Steamers	37	373,932	66,727
★ 2.06	Commercial Ice Machines	408	479,875	0
★ 2.07	Insulated Hot Food Holding Cabinets	354	752,758	0
★ 2.08	Commercial Conveyor Oven-Gas	14	0	12,376
★ 2.09	Commercial Electric Deck Oven			
★ 2.10	Commercial Hand Wrap Machines			
★ 2.11	Gas & Electric Fryers	2,288	18,747	1,535,209
★ 2.12	Exhaust Hood Demand Controlled Ventilation	218	936,077	21,772
★ 2.13	Low-Flow Pre-Rinse Spray Valves Direct Insta	1,328	0	48,395
2.14	Rack Oven	104	0	218,816
2.15	Finned-Bottom Stock Pot			
★ 2.16	Reach in RefFreezer	6,004	5,052,745	0
2.17	Commercial Pressure Fryer			
★ 2.18	Com High Density Universal Holding Cabinets			
<b>Grand Total</b>		<b>1,594,703</b>	<b>1,399,584</b>	<b>4,988,132</b>



\* Images are the courtesy of PG&E Food Service Technology Center and Fisher Nickel  
(Images are examples of technology, but not intended as a product endorsement.)

# Food Services Category

23

Ref No	Name	Units Installed	Total Energy (kWh/yr)	Total Energy (therm/yr)
★ 2.01	Commercial Convection Oven	716	65,206	232,905
★ 2.02	Commercial Dishwashers	1,037	0	34,221
★ 2.03	Commercial Combination Oven	244	1,279,694	145,140
★ 2.04	Commercial Griddles	162	33,050	17,258
★ 2.05	Commercial Steamers	37	373,932	66,727
★ 2.06	Commercial Ice Machines	408	479,875	0
★ 2.07	Insulated Hot Food Holding Cabinets	354	752,758	0
★ 2.08	Commercial Conveyor Oven-Gas	14	0	12,376
★ 2.09	Commercial Electric Deck Oven			
★ 2.10	Commercial Hand Wrap Machines			
★ 2.11	Gas & Electric Fryers	2,288	18,747	1,535,209
★ 2.12	Exhaust Hood Demand Controlled Ventilation	218	936,077	21,772
★ 2.13	Low-Flow Pre-Rinse Spray Valves Direct Insta	1,328	0	48,395
2.14	Rack Oven	104	0	218,816
2.15	Finned-Bottom Stock Pot			
★ 2.16	Reach in RefFreezer	6,004	5,052,745	0
2.17	Commercial Pressure Fryer			
★ 2.18	Com High Density Universal Holding Cabinets			
<b>Grand Total</b>		<b>1,594,703</b>	<b>1,399,584</b>	<b>4,988,132</b>





# Food Services Category

Ref No	Name	Units Installed	Total Energy (kWh/yr)	Total Energy (therm/yr)
★ 2.01	Commercial Convection Oven	716	65,206	232,905
★ 2.02	Commercial Dishwashers	1,037	0	34,221
★ 2.03	Commercial Combination Oven	244	1,279,694	145,140
★ 2.04	Commercial Griddles	162	33,050	17,258
★ 2.05	Commercial Steamers	37	373,932	66,727
★ 2.06	Commercial Ice Machines	408	479,875	0
★ 2.07	Insulated Hot Food Holding Cabinets	354	752,758	0
★ 2.08	Commercial Conveyor Oven-Gas	14	0	12,376
★ 2.09	Commercial Electric Deck Oven			
★ 2.10	Commercial Hand Wrap Machines			
★ 2.11	Gas & Electric Fryers	2,288	18,747	1,535,209
★ 2.12	Exhaust Hood Demand Controlled Ventilation	218	936,077	21,772
★ 2.13	Low-Flow Pre-Rinse Spray Valves Direct Insta	1,328	0	48,395
2.14	Rack Oven	104	0	218,816
2.15	Finned-Bottom Stock Pot			
★ 2.16	Reach in RefFreezer	6,004	5,052,745	0
2.17	Commercial Pressure Fryer			
★ 2.18	Com High Density Universal Holding Cabinets			
Grand Total		1,594,703	1,399,584	4,988,132



# Food Services Category

25

Ref No	Name	Units Installed	Total Energy (kWh/yr)	Total Energy (therm/yr)
★ 2.01	Commercial Convection Oven	716	65,206	232,905
★ 2.02	Commercial Dishwashers	1,037	0	34,221
★ 2.03	Commercial Combination Oven	244	1,279,694	145,140
★ 2.04	Commercial Griddles	162	33,050	17,258
★ 2.05	Commercial Steamers	37	373,932	66,727
★ 2.06	Commercial Ice Machines	408	479,875	0
★ 2.07	Insulated Hot Food Holding Cabinets	354	752,758	0
★ 2.08	Commercial Conveyor Oven-Gas	14	0	12,376
★ 2.09	Commercial Electric Deck Oven			
★ 2.10	Commercial Hand Wrap Machines			
★ 2.11	Gas & Electric Fryers	2,288	18,747	1,535,209
★ 2.12	Exhaust Hood Demand Controlled Ventilation	218	936,077	21,772
★ 2.13	Low-Flow Pre-Rinse Spray Valves Direct Insta	1,328	0	48,395
2.14	Rack Oven	104	0	218,816
2.15	Finned-Bottom Stock Pot			
★ 2.16	Reach in RefFreezer	6,004	5,052,745	0
2.17	Commercial Pressure Fryer			
★ 2.18	Com High Density Universal Holding Cabinets			
<b>Grand Total</b>		<b>1,594,703</b>	<b>1,399,584</b>	<b>4,988,132</b>

**Question:**  
Should Commercial Reach-In Refrigerators / Freezers be included in this category or in Appliance / Plug Loads? Thoughts?



# Cross-Cutting Issues

26

- Disposition to de-rate savings by 30% requires supporting documentation of inputs.
- EULs are referenced almost exclusively to DEER, which is 12 years for most equipment.
  - EUL may vary significantly across markets (restaurants vs schools).
- Peak times are changing. How does this effect the standard 0.9 CDF (coincident diversity factor) that is applied to this category?
- Water savings measures are captured (currently) when linked to hot water savings.

# Cross-Cutting Issues

## Existing Dispositions

- 30% Reduction of Savings
  - D-11-07-030, Attachment A-B, “Summary of final determinations of Non-DEER Ex Ante Energy Savings values for High Impact energy efficiency measures for Utility 2010-2012 Portfolios.” (7/14/11)

PGE PGECOFST101 Convection Oven	Approval upon inclusion of the following revisions: 1. Energy Division believes that operating hours, food production rates and baseline efficiencies contribute to overly optimistic UES calculations and recommend a 30% reduction in UES values for this group of measures.
SCG SCGWP080331B Conveyor Oven	
PGE PGECOFST102 Fryer - Electric and Gas	
PGE PGECOFST104 Steam Cookers	

- Same decision from 2011 is starting to impact new measures that are under review by Ex Ante Team.
- Some ET/PIER studies coming to help solve 30% issue for:
  - Convection Oven, Griddle, Fryer, Broiler, Combination Oven

# Measure Specific Issue – Combi-Oven Methodologies Match / Assumptions Differ

28

	SCE		PG&E	
	15-28 Pan Capacity		15-28 Pan Capacity	
Performance	Baseline Model	Energy-Efficient Model	Baseline Model	Energy-Efficient Model
Preheat Time (min)	15	15	15	15
Preheat Energy (kWh)	3.75	2	3.75	2
Convection Idle Energy Rate (kW)	3.75	2.5	3.75	2.5
Convection Cooking Energy Efficiency (%)	65%	70%	65%	70%
Convection Production Capacity (lbs/hr)	100	125	100	125
Steam Idle Energy Rate (kW)	12.5	6	12.5	6
Steam Cooking Energy Efficiency (%)	40%	50%	40%	50%
Steam Production Capacity (lbs/hr)	150	200	150	200
Average Water Consumption Rate (gal/h)	40	25	40	25
Operating Hours/Day	12	12	12	12
Operating Days/Year	355	355	365	365
Number of Preheats per Day	1	1	1	1
Pounds of Food Cooked per Day	250	250	250	250
Percentage Time in Steam Mode	50%	50%	50%	50%
ASTM Convection Mode Energy to Food (kWh/lb)	0.0732			
ASTM Steam Mode Energy to Food (kWh/lb)	0.0308			

- Assumptions vary slightly between IOUs

# Measure Specific Issue – Pre-Rinse Spray Methodologies Match / Assumptions Differ

29

## PG&E

	gpm	Hours/Day	Days/yr	Mix H <sub>2</sub> O °F	Supply H <sub>2</sub> O °F	Water heater efficiency	Therms/yr	Savings Therms/yr
Baseline	1.4	1	365	114.1	63.2	0.7	185.7	-
Qualifying Measure	1.15	1	365	114.1	63.2	0.7	152.5	33.2

## SCG

	GPM	Hours/Day	Days/yr	Mix H <sub>2</sub> O °F	Supply H <sub>2</sub> O °F	eff	Therms/yr	Savings Therms/yr
Baseline	1.6	0.964	365	114.1	68	0.7	185.3	N/A
Qualifying Measure	1.28	1.007	365	114.1	68	0.7	154.9	30.4

## SDG&E

	GPM	Hours/Day	Days/yr	Mix H <sub>2</sub> O °F	SDG&E Supply H <sub>2</sub> O °F	SDG&E Savings Therms/yr		
CZ06								
Base, Pre-Rinse Spray Valve	1.6	1	365	114.1	61.7	0.7	218.5	
Low Flow Pre-Rinse Spray Valve, 1.07 GPM	1.07	1	365	114.1	61.7	0.7	146.1	72.4
Low Flow Pre-Rinse Spray Valve, 1.28 GPM	1.28	1	365	114.1	61.7	0.7	174.8	43.7
Low Flow Pre-Rinse Spray Valve, 1.15 GPM	1.15	1	365	114.1	61.7	0.7	157.0	61.5

# Measure Specific Issues

30

- Need consensus on calculation assumptions for:
  - ❑ Combination Oven
  - ❑ Griddle
  - ❑ Gas / Electric Fryers
  - ❑ Steamer
  - ❑ Ice Machines
  - ❑ Insulating Holding Cabinet
  - ❑ Exhaust Hood Demand Controlled Ventilation (DCV)
  - ❑ Pre-Rinse Spray Valves
- Changing Measures:
  - ❑ New: Under-counter Dishwasher (POUs have additional offerings)
  - ❑ Code: Commercial Ice Machines (Energy Star version 3)

# Questions

31