



Date: December 12, 2011
To: Don Jones, Jr. and Jeff Bumgarner
From: Elizabeth Daykin and Niko Drake-McLaughlin
Re: Utah FinAnswer Express 2012-2014 Cost-Effectiveness, Medium Carbon Scenario for Participation Scenarios

The tables below present the cost-effectiveness findings of the Utah FinAnswer Express program based on projected 2012, 2013, and 2014 costs and savings estimates provided by PacifiCorp in a spreadsheet entitled “Exec Summary 120211”. The Utility discount rate is from the 2011 PacifiCorp Integrated Resource Plan.

Cost-effectiveness was tested using the 2011 IRP 69% east system load factor decrement. The tables provided below list modeling inputs, annual cost and savings information provided by PacifiCorp, and cost-effectiveness results for each program scenario.

Table 1: FinAnswer Express Inputs

Parameter	Value
Discount Rate	7.17%
Commercial line loss	9.379 %
Industrial line Loss	5.726 %
Commercial energy rate (\$/kWh)	
2012	\$0.0745
2013	\$0.0764
2014	\$0.0783
Industrial energy rate (\$/kWh)	
2012	\$0.0499
2013	\$0.0512
2014	\$0.0524

Table 2: FinAnswer Express Measure Lives and Realization Rates by Measure Type

End Use	Measure Life	Realization Rate
Appliances	9	0.87
Compressed Air	9	0.87
Envelope	20	1.00
Farm Equipment	10	0.87
Food Service	12	0.87
HVAC	15	0.66
Irrigation	5	0.87
Lighting Equipment	14	0.88
Motors	15	0.82
Other Equipment	5	0.87
Non Trade-Ally	14	0.87

**Table 3: FinAnswer Express Annual Costs and Savings by Year and Measure Type
 10% Greater Participation**

FinAnswer Express	End Use	Gross kWh Savings	Gross Savings	Incentives	Incremental
2012	Appliances	94,302	5	\$15,150	\$35,603
	Compressed Air	825,000	44	\$123,750	\$305,250
	Envelope	96,335	20	\$37,642	\$93,130
	Farm Equipment	247,500	35	\$29,700	\$103,950
	Food Service	957,211	249	\$141,575	\$337,037
	HVAC	1,462,303	391	\$244,725	\$922,801
	Irrigation	577,500	310	\$46,200	\$219,450
	Lighting Equipment	31,799,410	6,013	\$1,421,528	\$8,089,687
	Motors	1,996,353	52	\$126,774	\$368,077
	Office Equipment	62,878	5	\$5,643	\$8,108
	Non Trade-Ally	3,811,879	791	\$304,950	\$1,265,276
	2012 Total		41,930,671	7,915	\$2,497,636
2013	Appliances	95,286	5	\$15,600	\$37,727
	Compressed Air	1,072,500	58	\$160,875	\$396,825
	Envelope	108,937	23	\$42,218	\$105,357
	Farm Equipment	321,750	45	\$38,610	\$135,135
	Food Service	1,024,351	265	\$153,300	\$358,682
	HVAC	1,634,469	437	\$272,609	\$1,030,622
	Irrigation	750,750	403	\$60,060	\$285,285
	Lighting Equipment	33,803,575	6,392	\$1,511,120	\$8,599,541
	Motors	2,167,698	66	\$138,739	\$400,264
	Office Equipment	71,788	7	\$6,028	\$8,768
	Non Trade-Ally	4,105,110	851	\$328,409	\$1,362,608
	2013 Total		45,156,215	8,552	\$2,727,567
2014	Appliances	115,586	6	\$19,300	\$45,856
	Compressed Air	1,086,250	58	\$162,938	\$401,913
	Envelope	122,585	25	\$48,279	\$118,327
	Farm Equipment	325,875	46	\$39,105	\$136,868
	Food Service	1,047,536	271	\$158,760	\$354,752
	HVAC	1,880,209	524	\$334,267	\$1,228,493
	Irrigation	760,375	409	\$60,830	\$288,943
	Lighting Equipment	25,720,111	4,863	\$1,149,765	\$6,543,129
	Motors	2,347,331	82	\$151,522	\$434,222
	Office Equipment	80,536	8	\$6,406	\$9,416
	Non Trade-Ally	3,348,639	695	\$267,891	\$1,111,513
	2014 Total		36,835,034	6,986	\$2,399,062
All Years	Appliances	305,174	16	\$50,050	\$119,186
	Compressed Air	2,983,750	160	\$447,563	\$1,103,988
	Envelope	327,857	68	\$128,139	\$316,814
	Farm Equipment	895,125	125	\$107,415	\$375,953
	Food Service	3,029,098	785	\$453,635	\$1,050,471
	HVAC	4,976,982	1,353	\$851,601	\$3,181,916
	Irrigation	2,088,625	1,122	\$167,090	\$793,678
	Lighting Equipment	91,323,096	17,267	\$4,082,412	\$23,232,356
	Motors	6,511,383	200	\$417,034	\$1,202,563
	Office Equipment	215,202	20	\$18,077	\$26,292
	Non Trade-Ally	11,265,629	2,337	\$901,250	\$3,739,397
	All Years Total		123,921,920	23,453	\$7,624,265

Table 4: Program Costs (10% Greater Participation)

Year	Third Party Program Delivery Services	Incentives	Design and Program Development	Evaluation	Marketing	Utility Labor	Engineering & Lighting Inspections	Total
2012	\$1,744,743	\$2,497,636	\$60,803	\$384,713	\$125,000	\$250,000	\$525,000	\$5,587,895
2013	\$1,850,326	\$2,727,567	\$29,603	\$10,000	\$125,000	\$250,000	\$525,000	\$5,517,496
2014	\$1,543,706	\$2,399,062	\$29,603	\$396,895	\$125,000	\$250,000	\$525,000	\$5,269,266
Total	\$5,138,774	\$7,624,265	\$120,010	\$791,608	\$375,000	\$750,000	\$1,575,000	\$16,374,657

**Table 5: FinAnswer Express Cost Effectiveness, All Years, Entire Program
 10% Greater Participation**

FinAnswer Express - Total Program	East System 69% (2011 medium)			
	Costs	Benefits	Net Benefits	Benefit/Cost Ratio
Total Resource Cost Test (PTRC) + Conservation Adder	\$34,192,347	\$81,559,415	\$47,367,068	2.39
Total Resource Cost Test (TRC) No Adder	\$34,192,347	\$74,144,923	\$39,952,576	2.17
Utility Cost Test (UCT)	\$15,324,045	\$74,144,923	\$58,820,877	4.84
Rate Impact Test (RIM)	\$70,050,622	\$74,144,923	\$4,094,301	1.06
Participant Cost Test (PCT)	\$32,911,156	\$76,405,659	\$43,494,503	2.32

**Table 6: FinAnswer Express Annual Costs and Savings by Year and Measure Type
 10% Lesser Participation**

FinAnswer Express	End Use	Gross kWh Savings	Gross Savings	Incentives	Participant Incremental
2012	Appliances	77,164	4	\$12,400	\$29,136
	Compressed Air	675,000	36	\$101,250	\$249,750
	Envelope	78,819	17	\$30,798	\$76,197
	Farm Equipment	202,500	28	\$24,300	\$85,050
	Food Service	799,532	210	\$117,030	\$290,069
	HVAC	1,195,986	320	\$200,107	\$754,385
	Irrigation	472,500	254	\$37,800	\$179,550
	Lighting Equipment	26,054,138	4,926	\$1,164,697	\$6,628,105
	Motors	1,633,374	42	\$103,724	\$301,153
	Office Equipment	51,398	4	\$4,613	\$6,628
	Non Trade-Ally	3,124,041	648	\$249,923	\$1,036,962
	2012 Total		34,364,454	6,490	\$2,046,641
2013	Appliances	77,984	4	\$12,775	\$30,906
	Compressed Air	877,500	47	\$131,625	\$324,675
	Envelope	89,131	19	\$34,542	\$86,201
	Farm Equipment	263,250	37	\$31,590	\$110,565
	Food Service	853,025	223	\$126,380	\$307,262
	HVAC	1,337,210	358	\$222,971	\$842,688
	Irrigation	614,250	330	\$49,140	\$233,415
	Lighting Equipment	27,657,470	5,229	\$1,236,371	\$7,035,988
	Motors	1,773,577	54	\$113,514	\$327,489
	Office Equipment	58,688	5	\$4,928	\$7,168
	Non Trade-Ally	3,360,209	697	\$268,817	\$1,115,353
	2013 Total		36,962,294	7,003	\$2,232,651
2014	Appliances	94,720	5	\$15,825	\$37,607
	Compressed Air	888,750	48	\$133,313	\$328,838
	Envelope	100,297	21	\$39,501	\$96,813
	Farm Equipment	266,625	37	\$31,995	\$111,983
	Food Service	873,360	228	\$131,160	\$303,736
	HVAC	1,537,687	429	\$273,310	\$1,004,317
	Irrigation	622,125	334	\$49,770	\$236,408
	Lighting Equipment	21,043,727	3,979	\$940,717	\$5,353,469
	Motors	1,920,543	67	\$123,973	\$355,273
	Office Equipment	65,816	6	\$5,236	\$7,696
	Non Trade-Ally	2,741,365	569	\$219,309	\$909,941
	2014 Total		30,155,015	5,722	\$1,964,108
All Years	Appliances	249,868	13	\$41,000	\$97,649
	Compressed Air	2,441,250	131	\$366,188	\$903,263
	Envelope	268,247	56	\$104,841	\$259,211
	Farm Equipment	732,375	103	\$87,885	\$307,598
	Food Service	2,525,917	661	\$374,570	\$901,067
	HVAC	4,070,884	1,106	\$696,387	\$2,601,390
	Irrigation	1,708,875	918	\$136,710	\$649,373
	Lighting Equipment	74,755,336	14,135	\$3,341,784	\$19,017,562
	Motors	5,327,495	163	\$341,210	\$983,916
	Office Equipment	175,902	16	\$14,777	\$21,492
	Non Trade-Ally	9,225,615	1,914	\$738,049	\$3,062,256
	All Years Total		101,481,763	19,216	\$6,243,400

Table 7: Administrative Costs (10% Lesser Participation)

Year	Third Party Program Delivery Services	Incentives	Design and Program Development	Evaluation	Marketing	Utility Labor	Engineering & Lighting Inspections	Total
2012	\$1,744,743	\$2,046,641	\$60,803	\$384,713	\$125,000	\$250,000	\$525,000	\$5,136,901
2013	\$1,850,326	\$2,232,651	\$29,603	\$10,000	\$125,000	\$250,000	\$525,000	\$5,022,581
2014	\$1,543,706	\$1,964,108	\$29,603	\$396,895	\$125,000	\$250,000	\$525,000	\$4,834,311
Total	\$5,138,774	\$6,243,400	\$120,010	\$791,608	\$375,000	\$750,000	\$1,575,000	\$14,993,793

**Table 8: FinAnswer Express Cost Effectiveness, All Years, Entire Program
 10% Lesser Participation**

FinAnswer Express - Total Program			East System 69% (2011 medium)	
	Costs	Benefits	Net Benefits	Benefit/Cost Ratio
Total Resource Cost Test (PTRC) + Conservation Adder	\$29,503,890	\$66,788,033	\$37,284,143	2.26
Total Resource Cost Test (TRC) No Adder	\$29,503,890	\$60,716,394	\$31,212,504	2.06
Utility Cost Test (UCT)	\$14,032,545	\$60,716,394	\$46,683,849	4.33
Rate Impact Test (RIM)	\$58,850,821	\$60,716,394	\$1,865,573	1.03
Participant Cost Test (PCT)	\$26,976,400	\$62,572,006	\$35,595,606	2.32