

**Exhibit B
Category Budget**

Budget Category Item	PIER Cost Share	DOE Funds	Match Share	Total Cost (\$)
Personnel:				
Direct Labor	\$ 189,751	\$ 1,956,667	\$ 322,009	\$ 2,468,427
Fringe Benefits	\$ 58,064	\$ 503,059	\$ 87,299	\$ 648,422
Total Personal Services	\$ 247,815	\$ 2,459,726	\$ 409,308	\$ 3,116,849
Operating Expenses:				
Travel	\$ -	\$ 30,000	\$ -	\$ 30,000
Equipment	\$ -	\$ -	\$ -	\$ -
Materials / Supplies	\$ -	\$ 150,869	\$ -	\$ 150,869
Contractual	\$ 64,685	\$ 305,211	\$ -	\$ 369,896
Miscellaneous	\$ -	\$ 277,720	\$ 136,080	\$ 413,800
Total Operating Expenses	\$ 64,685	\$ 763,800	\$ 136,080	\$ 964,565
Overhead:				
Overhead	\$ 187,500	\$ 1,782,485	\$ 245,583	\$ 2,215,568
Total Overhead	\$ 187,500	\$ 1,782,485	\$ 245,583	\$ 2,215,568
Total	\$ 500,000	\$ 5,006,011	\$ 790,971	\$ 6,296,982

Exhibit B

Budget Details

Direct Labor, Unloaded Hourly Rates

Title / Job Classification	Maximum Rate to be Billed* (\$ / Hr)	Number of Hours	PIER Cost Share	DOE Funds	Match Share	Total Cost
Byron Reeves	PI	\$ 115.92	728	\$ -	\$ 84,387	\$ 84,387
Banny Banerjee	Co-PI	\$ 80.22	624	\$ -	\$ 50,056	\$ 50,056
Thomas Robinson	Co-PI	\$ 112.91	832	\$ -	\$ 93,942	\$ 93,942
James Sweeney	Co-PI	\$ 110.43	312	\$ -	\$ 34,453	\$ 34,453
Carrie Armel	Project director	\$ 38.14	4,160	\$ -	\$ 158,657	\$ 158,657
Andrew Ng	Co-Investigator	\$ 93.09	156	\$ -	\$ 14,522	\$ 14,522
Gregory Walton	Co-Investigator	\$ 55.58	156	\$ -	\$ 8,671	\$ 8,671
Balaji Prabhakar	Co-Investigator	\$ 97.00	156	\$ -	\$ 15,132	\$ 15,132
Martin Fischer	Co-Investigator	\$ 90.63	156	\$ -	\$ 14,138	\$ 14,138
Philip Levis	Co-Investigator	\$ 67.13	78	\$ -	\$ 5,236	\$ 5,236
Nicole Ardoin	Co-Investigator	\$ 50.65	31	\$ -	\$ 1,570	\$ 1,570
Abby King	Co-Investigator	\$ 94.93	42	\$ -	\$ 3,987	\$ 3,987
Hamid Aghajan	Co-Investigator	\$ 72.49	208	\$ -	\$ 15,077	\$ 15,077
Scott Klemmer	Co-Investigator	\$ 67.13	156	\$ -	\$ 10,472	\$ 10,472
Samuel McClure	Co-Investigator	\$ 62.38	156	\$ -	\$ 9,731	\$ 9,731
John Weyant	Co-Investigator	\$ 96.45	42	\$ -	\$ 4,051	\$ 4,051
Christos Kozyrakis	Co-Investigator	\$ 71.15	78	\$ -	\$ 5,550	\$ 5,550
Monica McDermott	Co-Investigator	\$ 58.81	31	\$ -	\$ 1,823	\$ 1,823
Martha Russell	Research associate	\$ 55.21	1,664	\$ -	\$ 91,862	\$ 91,862
6 TBN	Research assistants	\$ 25.09	24,960	\$ -	\$ 626,280	\$ 626,280
TBN	Interface design and development	\$ 42.66	4,160	\$ -	\$ 177,446	\$ 177,446
TBN	Statistical analyst	\$ 65.24	4,160	\$ -	\$ 271,388	\$ 271,388
TBN	Project assistant	\$ 40.15	4,160	\$ 105,948	\$ 61,070	\$ 167,018
TBN	Computer systems and IT	\$ 50.18	2,080	\$ 83,803	\$ 20,577	\$ 104,380
Annika Todd	Postdoc	\$ 30.01	4,160	\$ -	\$ 124,848	\$ 124,848
4 - 50% Pre-candidacy RA aca	Graduate student RA	\$ 28.90	6,240	\$ -	\$ 180,328	\$ 180,328
4 - 50% Candidacy RA aca	Graduate student RA	\$ 31.00	6,240	\$ -	\$ 193,422	\$ 193,422
Total Direct Labor			\$ 189,751	\$ 1,956,667	\$ 322,009	\$ 2,468,427

* Maximum salary rates are caps: PIER will not reimburse at a higher rate over the term of the project.

Fringe Benefits

Title / Job Classification	Maximum % Rate to be Billed*	Base (Typically Total Direct Labor)	PIER Cost Share	DOE Funds	Match Share	Total Cost
Byron Reeves	PI	30.6%	\$84,387.00	\$ -	\$ 25,822	\$ 25,822
Banny Banerjee	Co-PI	30.6%	\$50,056.00	\$ -	\$ 15,317	\$ 15,317
Thomas Robinson	Co-PI	30.6%	\$93,942.00	\$ -	\$ 28,746	\$ 28,746
James Sweeney	Co-PI	30.6%	\$34,453.00	\$ -	\$ 10,543	\$ 10,543
Carrie Armel	Project director	30.6%	\$158,657.00	\$ -	\$ 48,549	\$ 48,549
Andrew Ng	Co-Investigator	30.6%	\$14,522.00	\$ -	\$ 4,444	\$ 4,444
Gregory Walton	Co-Investigator	30.6%	\$8,671.00	\$ -	\$ 2,653	\$ 2,653
Balaji Prabhakar	Co-Investigator	30.6%	\$15,132.00	\$ -	\$ 4,630	\$ 4,630
Martin Fischer	Co-Investigator	30.6%	\$14,138.00	\$ -	\$ 4,326	\$ 4,326
Philip Levis	Co-Investigator	30.6%	\$5,236.00	\$ -	\$ 1,602	\$ 1,602
Nicole Ardoin	Co-Investigator	30.6%	\$1,570.00	\$ -	\$ 480	\$ 480
Abby King	Co-Investigator	30.6%	\$3,987.00	\$ -	\$ 1,220	\$ 1,220
Hamid Aghajan	Co-Investigator	30.6%	\$15,077.00	\$ -	\$ 4,614	\$ 4,614
Scott Klemmer	Co-Investigator	30.6%	\$10,472.00	\$ -	\$ 3,204	\$ 3,204
Samuel McClure	Co-Investigator	30.6%	\$9,731.00	\$ -	\$ 2,978	\$ 2,978
John Weyant	Co-Investigator	30.6%	\$4,051.00	\$ -	\$ 1,240	\$ 1,240
Christos Kozyrakis	Co-Investigator	30.6%	\$5,550.00	\$ -	\$ 1,698	\$ 1,698
Monica McDermott	Co-Investigator	30.6%	\$1,823.00	\$ -	\$ 558	\$ 558
Martha Russell	Research associate	30.6%	\$91,862.00	\$ -	\$ 28,110	\$ 28,110
6 TBN	Research assistants	30.6%	\$626,280.00	\$ -	\$ 191,642	\$ 191,642
TBN	Interface design and development	30.6%	\$177,446.00	\$ -	\$ 54,298	\$ 54,298
TBN	Statistical analyst	30.6%	\$271,388.00	\$ -	\$ 83,045	\$ 83,045
TBN	Project assistant	30.6%	\$167,018.00	\$ 32,420	\$ 18,687	\$ 51,107
TBN	Computer systems and IT	30.6%	\$104,380.00	\$ 25,644	\$ 6,297	\$ 31,941
Annika Todd	Postdoc	21.6%	\$124,848.00	\$ -	\$ 26,967	\$ 26,967
4 - 50% Pre-candidacy RA aca	Graduate student RA	5.0%	\$180,328.00	\$ -	\$ 9,016	\$ 9,016
4 - 50% Candidacy RA aca	Graduate student RA	5.0%	\$193,422.00	\$ -	\$ 9,672	\$ 9,672
Total Fringe Benefits			\$ 58,064	\$ 503,059	\$ 87,299	\$ 648,422

* Maximum fringe benefit rates are caps: PIER will not reimburse at a higher rate over the term of the project.

Travel**

Location	Purpose	Number of Trips	People per Trip	PIER Cost Share	DOE Funds	Match Share	Total Cost
Palo Alto and SF Bay Area	researcher meetings	10	2	\$ -	\$ 10,000	\$ -	\$ 10,000
Seattle, WA, San Diego, New York, Portland,OR	Conferences for presenting research findings	5	3	\$ -	\$ 20,000	\$ -	\$ 20,000
Total Travel				\$ -	\$ 30,000	\$ -	\$ 30,000

* PIER Share: Travel is reimbursed at State rates. Higher travel costs can count as Match Share.

** Trips listed as "to be determined (TBD)" require advanced written approval from Commission Project Manager.

Exhibit B
Budget Details

Equipment

Item	Quantity	Unit Cost	PIER Cost Share	DOE Funds	Match Share	Total Cost
		\$ -	\$ -		\$ -	\$ -
Total Equipment			\$ -		\$ -	\$ -

Materials, Supplies

Item	Quantity	Unit Cost	PIER Cost Share	DOE Funds	Match Share	Total Cost
Software	8	\$ 500.00	\$ -	\$ 4,000		\$ 4,000
Servers, DAQ	4	\$ 2,500.00	\$ -	\$ 10,000		\$ 10,000
Smart monitors and sensors	1,000	\$ 84.87	\$ -	\$ 84,869		\$ 84,869
Computers	7	\$ 2,000.00	\$ -	\$ 14,000		\$ 14,000
Video camera equipment	15	\$ 200.00	\$ -	\$ 3,000		\$ 3,000
Office/lab supplies	500	\$ 10.00	\$ -	\$ 5,000		\$ 5,000
Mobile electronic devices	75	\$ 400.00	\$ -	\$ 30,000		\$ 30,000
Total Materials and Supplies			\$ -	\$ 150,869	\$ -	\$ 150,869

Contractual

Subcontractor Name	Purpose	PIER Cost Share	DOE Funds	Match Share	Total Cost
Media production	Journal publications, brochures,		\$ 130,000		\$ 130,000
Jeff Shrager	Interface design and development		\$ 60,000		\$ 60,000
Software architecture, database	Develop common communication infrastructure for sensing and feedback technologies		\$ 50,000		\$ 50,000
Electricians/trades	Installation of smart monitors and sensing technologies in homes		\$ 50,000		\$ 50,000
Energy policy	Assist with integrating the projects with policy initiatives	\$ 2,500	\$ 7,396		\$ 9,896
Transcription entry	Transcribing audio tapes from meetings	\$ 12,185	\$ 7,815		\$ 20,000
Linda Schuck	Liason with Utilities and Regulators	\$ 50,000			\$ 50,000
		\$ -		\$ -	\$ -
Total Contractual		\$ 64,685	\$ 305,211	\$ -	\$ 369,896

Miscellaneous

Item	Purpose	PIER Cost Share	DOE Funds	Match Share	Total Cost
Tuition	for graduate students	\$ -	\$ 252,720	\$ 136,080	\$ 388,800
Incentives	for human subjects	\$ -	\$ 20,000		\$ 20,000
Postage and freight	Correspondence with participants	\$ -	\$ 1,000		\$ 1,000
Photocopying and printing	Duplication of project related documents i.e. checklists	\$ -	\$ 1,000		\$ 1,000
Equip maintenance and repair	Fixing and recalibrating sensors	\$ -	\$ 3,000		\$ 3,000
Total Miscellaneous		\$ -	\$ 277,720	\$ 136,080	\$ 413,800

Overhead

Name of Overhead	Overhead Base*	Maximum % Rate to be Billed**	Base Cost	PIER Cost Share	DOE Funds	Match Share	Total Cost
Sponsored research	Modified total direct cost	60%	\$ 3,692,614.00	\$ 187,500	\$ 1,782,485	\$ 245,583	\$ 2,215,568
Total Overhead				\$ 187,500	\$ 1,782,485	\$ 245,583	\$ 2,215,568

* Base: Define cost categories used to charge Overhead rate, e.g., Total Labor, Total Direct Cost, Materials, Subcontracts, etc.

** Maximum Indirect Overhead rates are caps: PIER will not reimburse at higher rates over the term of the project.

**Exhibit B
Budget Summary by Task**

Task #	Task Name	PIER Funding (\$)	DOE Funds (\$)	Match Funding (\$)	Total (\$)
1.1	Attend Kick-off Meeting	\$0	\$2,997	\$0	\$2,997
1.2	Critical Project Review Meetings	\$0	\$12,878	\$0	\$12,878
1.3	Final Meeting	\$0	\$2,997	\$0	\$2,997
1.4	Monthly Progress Reports	\$0	\$18,459	\$0	\$18,459
1.5	Final Report	\$0	\$19,958	\$0	\$19,958
1.6	Identify & Obtain Matching Funds	\$0	\$0	\$0	\$0
1.7	Identify & Obtain Required Permits	\$0	\$0	\$0	\$0
2.1	Project 1 (Software Platform) Computer Infrastructure for Prototyping and	\$51,000	\$531,418	\$46,639	\$629,057
2.2	Project 2 (Interventions - Foundational) Formative Work for Interventions	\$67,000	\$458,222	\$197,342	\$722,564
2.3	Project 3 (Interventions – Technology) Smart Automation	\$35,000	\$411,660	\$46,650	\$493,310
2.4	Project 4 (Intervention – Media) Multiplayer Game	\$35,000	\$418,954	\$46,650	\$500,604
2.5	Project 5 (Intervention – Media) Mobile Interactions	\$35,000	\$358,142	\$46,650	\$439,792
2.6	Project 6 (Intervention – Policy) Smart Monetary Incentives	\$51,000	\$381,431	\$46,650	\$479,081
2.7	Project 7 (Interventions – Policy) Nudges to Purchase Energy Efficient Appliances	\$35,000	\$370,143	\$46,650	\$451,793
2.8	Project 8 (Interventions – Policy) Goals and Collective Action	\$35,000	\$367,929	\$46,650	\$449,579
2.9	Project 9 (Interventions – Community) School and Community Programs	\$35,000	\$549,394	\$46,650	\$631,044
2.10	Project 10 (Data Modeling) Energy Consumption Forecasts	\$51,000	\$379,353	\$46,650	\$477,003
2.11	Project 11 (Data Modeling) Behaviorally Informed Prescriptive Economic Models	\$35,000	\$349,810	\$127,108	\$511,918
2.12	Project 12 (Energy Sensor Network) Open Extensible Communication Network	\$35,000	\$372,266	\$46,682	\$453,948
	Total	\$500,000	\$5,006,011	\$790,971	\$6,296,982

Exhibit B
DOE Funding By Task

Match Funding (\$)		Direct Labor	Fringe Benefits	Travel	Equipment	Materials	Contractual	Misc	Indirect Overhead	G&A	Total
Task 1	Project Administration Activities										
1.1	Attend Kick-off Meeting	1,232	377	264					1,124		\$2,997
1.2	Critical Project Review Meetings	6,163	1,886						4,829		\$12,878
1.3	Final Meeting	1,232	377	264					1,124		\$2,997
1.4	Monthly Progress Reports	8,834	2,703						6,922		\$18,459
1.5	Final Report	9,551	2,923						7,484		\$19,958
1.6	Identify & Obtain Matching Funds	N/A									\$0
1.7	Identify & Obtain Required Permits	N/A									\$0
	Administration Activities Subtotals	\$27,012	\$8,266	\$528	\$0	\$0	\$0	\$0	\$21,483	\$0	\$57,289
Project Technical Activities											
2.1	Project 1 (Software Platform) Computer Infrastructure for Prototyping and Evaluation	217,762	58,663	2,456		12,576	25,434	23,143	191,384		\$531,418
2.2	Project 2 (Interventions - Foundational) Formative Work for Interventions	182,733	47,944	2,456		12,576	25,434	23,143	163,936		\$458,222
2.3	Project 3 (Interventions – Technology) Smart Automation	160,452	41,124	2,456		12,576	25,434	23,143	146,475		\$411,660
2.4	Project 4 (Intervention – Media) Multiplayer Game	163,943	42,192	2,456		12,576	25,434	23,143	149,210		\$418,954
2.5	Project 5 (Intervention – Media) Mobile Interactions	134,840	33,287	2,456		12,576	25,434	23,143	126,406		\$358,142
2.6	Project 6 (Intervention – Policy) Smart Monetary Incentives	145,985	36,698	2,456		12,576	25,434	23,143	135,139		\$381,431
2.7	Project 7 (Interventions – Policy) Nudges to Purchase Energy Efficient Appliances	140,584	35,044	2,456		12,576	25,434	23,143	130,906		\$370,143
2.8	Project 8 (Interventions – Policy) Goals and Collective Action	139,524	34,720	2,456		12,576	25,434	23,143	130,076		\$367,929
2.9	Project 9 (Interventions – Community) School and Community Programs	226,365	61,295	2,456		12,576	25,434	23,143	198,125		\$549,394
2.10	Project 10 (Data Modeling) Energy Consumption Forecasts	144,991	36,393	2,456		12,576	25,434	23,143	134,360		\$379,353
2.11	Project 11 (Data Modeling) Behaviorally Informed Prescriptive Economic Models	130,853	32,067	2,456		12,576	25,434	23,143	123,281		\$349,810
2.12	Project 12 (Energy Sensor Network) Open Extensible Communication Network	141,623	35,366	2,456		12,533	25,437	23,147	131,704		\$372,266
	Technical Activities Subtotals	\$1,929,655	\$494,793	\$29,472	\$0	\$150,869	\$305,211	\$277,720	\$1,761,002	\$0	\$4,948,722
		Direct Labor	Fringe Benefits	Travel	Equipment	Materials	Contractual	Misc	Indirect Overhead	G&A	Total
Match Funds Totals		\$1,956,667	\$503,059	\$30,000	\$0	\$150,869	\$305,211	\$277,720	\$1,782,485	\$0	\$5,006,011
Percentage of the Total		39%	10%	1%	0%	3%	6%	6%	36%	0%	100%

Exhibit B

Match Budget

Match Funding (\$)		Direct Labor	Fringe Benefits	Travel	Equipment	Materials	Contractual	Misc	Indirect Overhead	G&A	Total
Task 1 Project Administration Activities											
1.1	Attend Kick-off Meeting										\$0
1.2	Critical Project Review Meetings										\$0
1.3	Final Meeting										\$0
1.4	Monthly Progress Reports										\$0
1.5	Final Report										\$0
1.6	Identify & Obtain Matching Funds										\$0
1.7	Identify & Obtain Required Permits										\$0
Administration Activities Subtotals		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Task 2 Project Technical Activities											
2.1	Project 1 (Software Platform) Computer Infrastructure for Prototyping and Evaluation	17,610	4,452					11,340	13,237		\$46,639
2.2	Project 2 (Interventions - Foundational) Formative Work for Interventions	89,730	26,521					11,340	69,751		\$197,342
2.3	Project 3 (Interventions – Technology) Smart Automation	17,615	4,454					11,340	13,241		\$46,650
2.4	Project 4 (Intervention – Media) Multiplayer Game	17,615	4,454					11,340	13,241		\$46,650
2.5	Project 5 (Intervention – Media) Mobile Interactions	17,615	4,454					11,340	13,241		\$46,650
2.6	Project 6 (Intervention – Policy) Smart Monetary Incentives	17,615	4,454					11,340	13,241		\$46,650
2.7	Project 7 (Interventions – Policy) Nudges to Purchase Energy Efficient Appliances	17,615	4,454					11,340	13,241		\$46,650
2.8	Project 8 (Interventions – Policy) Goals and Collective Action	17,615	4,454					11,340	13,241		\$46,650
2.9	Project 9 (Interventions – Community) School and Community Programs	17,615	4,454					11,340	13,241		\$46,650
2.10	Project 10 (Data Modeling) Energy Consumption Forecasts	17,615	4,454					11,340	13,241		\$46,650
2.11	Project 11 (Data Modeling) Behaviorally Informed Prescriptive Economic Models	56,119	16,236					11,340	43,413		\$127,108
2.12	Project 12 (Energy Sensor Network) Open Extensible Communication Network	17,630	4,458					11,340	13,254		\$46,682
Technical Activities Subtotals		\$322,009	\$87,299	\$0	\$0	\$0	\$0	\$136,080	\$245,583	\$0	\$790,971
		Direct Labor	Fringe Benefits	Travel	Equipment	Materials	Contractual	Misc	Indirect Overhead	G&A	Total
DOE Funds Totals		\$322,009	\$87,299	\$0	\$0	\$0	\$0	\$136,080	\$245,583	\$0	\$790,971
Percentage of the Total		41%	11%	0%	0%	0%	0%	17%	31%	0%	100%