

---

# APPENDIX D

---

## COST ANALYSIS











**Table D.2: Customer Unit Cost of Electricity Using Utility Peak Demand Reduction Values for the SDHW Capacity**

Plant Technology	Nominal Capacity	Plant Type	Capitol Cost	CCI Values	Total Costs @zero	Total @ zero	Total @ PSCW	Total @ high
	MW							
Adv Nuclear-Passive	600	Base	1609	0.994	3.12E+08	<b>0.032</b>	<b>x</b>	<b>x</b>
IGCC	400	Base	8670	0.994	2.22E+08	<b>0.036</b>	<b>x</b>	<b>x</b>
Combined Cycle	200	Int.	7514	0.994	1.29E+08	<b>0.046</b>	<b>x</b>	<b>x</b>
HAT Cycle	200	Int.	7228	0.994	1.21E+08	<b>0.041</b>	<b>x</b>	<b>x</b>
WISC CT	83	Peak	12200	0.994	6.41E+07	<b>0.060</b>	<b>x</b>	<b>x</b>
Solar 1 30W	<b>0.000465</b>	Renew.	2000	0.829	225.57	<b>0.048</b>	<b>0.029</b>	<b>-0.018</b>
Solar 1 PV	<b>0.000495</b>	Renew.	2500	0.875	275.37	<b>0.064</b>	<b>0.044</b>	<b>-0.002</b>
Solar 1B 30W	<b>0.000577</b>	Renew.	1800	0.946	205.65	<b>0.023</b>	<b>0.004</b>	<b>-0.042</b>
Solar 1B PV	<b>0.000607</b>	Renew.	2300	0.991	255.45	<b>0.037</b>	<b>0.017</b>	<b>-0.028</b>
Solar 2 30W	<b>0.000563</b>	Renew.	2300	0.846	255.45	<b>0.039</b>	<b>0.019</b>	<b>-0.027</b>
Solar 2 PV	<b>0.000593</b>	Renew.	2800	0.885	305.25	<b>0.051</b>	<b>0.032</b>	<b>-0.014</b>
Solar 2B 30W	<b>0.00063</b>	Renew.	2100	0.955	235.53	<b>0.023</b>	<b>0.004</b>	<b>-0.042</b>
Solar 2B PV	<b>0.00066</b>	Renew.	2600	0.994	285.33	<b>0.035</b>	<b>0.015</b>	<b>-0.031</b>
Solar 3 30W	<b>0.000563</b>	Renew.	3500	0.851	374.97	<b>0.065</b>	<b>0.046</b>	<b>0.000</b>
Solar 3 PV	<b>0.000593</b>	Renew.	4000	0.885	424.77	<b>0.075</b>	<b>0.056</b>	<b>0.010</b>
Solar 3B 30W	<b>0.00063</b>	Renew.	3200	0.96	345.09	<b>0.047</b>	<b>0.027</b>	<b>-0.018</b>
Solar 3B PV	<b>0.00066</b>	Renew.	3800	0.994	404.85	<b>0.058</b>	<b>0.039</b>	<b>-0.007</b>

### "Customer Life Cycle Savings & Monthly Bill Impact"

$LCS = P1 * ((C\_F1 * E\_saved - O\_n\_M) + DmdReb + GenReb + EmReb) - P2 * bCost\_installed$

$P1 = PWF(N\_e, i\_fuel, d)$

$P2 = 1$  "Utility Purchase--Cash "

$N\_e = 15$  "years"

$PrTax = 0$

$C = 0$

$bCost\_installed = 1.20 * Cost\_installed$

$C\_F1 = 0.08$  "\$/kWh Fuel Price"

$\{E\_saved = 2000$  "kWh/yr" }

$i\_fuel = 0.03$  "fuel inflation rate"

$d = 0.055$  "discount rate"

$\{Cost\_installed = 2000$  "\$"

$\{System\_Type = 1$

$PeakDmd\_reduct = 0\}$

$DmdReb = PeakDmd\_reduct * Credit$

$Credit = 0.00$  "\$/kW-yr 72.97"

$O\_n\_M = 25$  "\$/yr"

$GenReb = 0.0$

$EmReb = 0.0$

$MonthlyBill\_impact = (LCS/12) * (A\_P)$  "Difference in Electric Bill per Month"

$A\_P = (((d * (1 + d)^{N\_e}) / (((d + 1)^{N\_e}) - 1)))$







