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# POTENTIAL IMPACT OF PA HOUSE BILL 1580

**PREPARED BY DAYHILL GROUP LLC**

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**Introduction**

In May 2011, State Representative Chris Ross (R – Chester) introduced PA- HB # 1580, which, among other things, is intended to help fix the temporary collapse of the Pennsylvania Solar Renewable Energy Certificate ("SREC") market by:

1. Accelerating the mandates of solar energy production during the period of July 2012 through July 2014 ("the Acceleration Period").
2. Closing off the Pennsylvania SREC market to facilities located outside of the state.

The comprehensive strategy is meant to both stimulate the demand and reduce the source of supply for SREC's during the Acceleration Period. This should increase the value of SREC's, which in turn should increase the amount of capital available for investments in solar projects.

Dayhill Group LLC ("Dayhill") is an integrated construction risk management company with a concentration in the renewable energy sector. Passage of PA – HB # 1580 is clearly in our best interest, and we naturally support the bill.

Regardless, our analysis herein is meant to provide a quantitative view of the increased cost and the allocation of such cost due to the potential passage of the bill. While such analysis necessarily includes certain assumptions, we have attempted to make these assumptions reasonable and provide for meaningful data which can be used in the decision making process.

We make no judgments or guarantees on any prospective data contained herein. We present these findings for informational purposes only.

**Overall Increase in Costs**

PA – HB # 1580 would increase the required percentage of energy produced to be derived from solar during the Acceleration Period. These increases (presented as a percentage of total energy derived from solar) are shown in the table below:

| Period | Current Requirement | Proposed Requirement | Percentage Increase |
|---|---|---|---|
| July 2012 through June 2013 | 0.51% | 1.50% | 194.12% |
| July 2013 through June 2014 | 0.84% | 1.70% | 102.38% |
| July 2014 through June 2015 | 1.44% | 2.04% | 41.67% |

Dayhill has used these proposed increases, as well as data related to total projected electric sales and current and projected SREC pricing in order to calculate a potential increase in total costs that would be incurred as a result of the passage of PA – HB # 1580. This increase is summarized in the table below:

| | | | | | | |
|---|---|---|---|---|---|---|
| Dayhill Group LLC | | | | | | |
| Estimated Increase in Power Costs | | | | | | |
| As a Result of PA HB 1580 | | | | | | |
| Current | | | | | | |
| | | Total expected | Solar | Total | | |
| Power Year | | Electric Sales (a) | Mandate (%) | SREC's | SREC Value (b) | SREC cost |
| 2013 | | 145,076,399 | 0.51% | 73,989 | 80 | 5,919,117 |
| 2014 | | 147,361,122 | 0.84% | 123,783 | 80 | 9,902,667 |
| 2015 | | 149,684,900 | 1.44% | 215,546 | 80 | 17,243,700 |
| Total cost | | | | | | 33,065,485 |
| Proposed | | | | | | |
| | | Total expected | Solar | Total | | |
| Power Year | | Electric Sales (a) | Mandate (%) | SREC's | SREC Value (c) | SREC cost |
| 2013 | | 145,076,399 | 1.50% | 217,615 | 240 | 52,227,504 |
| 2014 | | 147,361,122 | 1.70% | 250,514 | 250 | 62,628,477 |
| 2015 | | 149,684,900 | 2.04% | 305,357 | 275 | 83,973,229 |
| Total cost | | | | | | 198,829,209 |
| Total increase | | | | | | 165,763,724 (d) |

(a) Based upon data provided to us by the President of the PASEIA.

(b) Based upon current SREC spot market pricing.

© Based upon estimates provided by the PASEIA. A sensitivity analysis utilizing different values can be provided upon request.

(d) The increase includes both changes due to increased SREC's and changes in the value of existing SREC's. This provides for a comprehensive number of total price increases.

The total increase of approximately $166 million is based upon our internal calculation. This may or may not be similar to other calculations you might have seen. We have attempted to take a reasoned approach that considers both the potential increase in the number of SREC's generated and the value of all SREC's generated.

We have personally seen other estimates that are much lower. Many of these estimates include only the additional SREC's multiplied by their expected value. Our estimate takes a conservative approach wherein we also add in an amount equal to the product of pre-change SREC's generated multiplied by the difference between the estimated revised pricing less the current spot market price.

We have not personally seen any higher estimates than our own.

**Allocation of Increase in Costs**

Our next step allocates this overall cost increase to the following consumer groups:

- Residential
- Commercial and industrial

We utilized the total 2009 allocation of MW energy demand per consumer type as presented (on page 20) of the "Electric Power Outlook for Pennsylvania 2009 – 2014" published by the Pennsylvania Public Utility Commission on July 10, 2010 as our basis for this allocation. While we recognize this allocation might change, it is the latest publicly available source of data and should provide for a reasonable proxy of future usage.
This allocation is presented in the following table:

| | Residential | Commercial and industrial | Other | Sales for Resale | Total |
|---|---|---|---|---|---|
| Total demand (MW) | 51.32 | 93.34 | 1.34 | 2.33 | 148.33 |
| % of total | 34.60% | 62.93% | 0.90% | 1.57% | 100.00% |
| Total allocated cost - year 1 | 16,022,167 | 29,140,457 | 418,344 | 727,419 | 46,308,387 |
| Total allocated cost - year 2 | 18,242,521 | 33,178,746 | 476,318 | 828,225 | 52,725,809 |
| Total allocated cost - year 3 | 23,087,646 | 41,990,860 | 602,826 | 1,048,197 | 66,729,528 |
| Total | 57,352,334 | 104,310,063 | 1,497,488 | 2,603,840 | 165,763,724 |

Our next step was to develop an estimate of total users by consumer group. We determined this by applying the total usage as noted in the table above to an estimate per unit usage total. Such per unit usage total was based upon our knowledge of the industry and via discussions with our colleagues.

This estimate is provided in the following table:

| | Residential | Commercial and Industrial | Other | Sales for Resale | Total |
|---|---|---|---|---|---|
| Total demand (MW) | 51.32 | 93.34 | 1.34 | 2.33 | 148.33 |
| % of total | 34.60% | 62.93% | 0.90% | 1.57% | 100.00% |
| Average usage - unit (Kwh) (a) | 10,500 | 150,000 | n/a | n/a | n/a |
| Average usage - unit (Mwh) | 0.0105 | 0.1500 | n/a | n/a | n/a |
| Average usage - MW | 0.0000105 | 0.0001500 | n/a | n/a | n/a |
| Total users (a) | 4,887,687 | 622,267 | n/a | n/a | n/a |
| (a) Based upon knowledge of the industry and discussions with industry peers. | | | | | |

Our final step was to develop an estimate of the average increase per each user. We determined this by dividing our estimate of total cost increase by user group into our total estimate of users.

This estimate is provided in the following table:

| | Residential | Commercial and Industrial | Other | Sales for Resale | Total |
|---|---|---|---|---|---|
| Total increased cost per user - year 1 | $ 3.28 | $ 46.83 | n/a | n/a | n/a |
| Total increased cost per user - year 2 | 3.73 | 53.32 | n/a | n/a | n/a |
| Total increased cost per user - year 3 | 4.72 | 67.48 | n/a | n/a | n/a |
| Total - Acceleration period | $ 11.73 | $ 167.63 | n/a | n/a | n/a |

Note: For the purpose of this presentation, Dayhill did not allocate amounts to other and sales for resale groups. These two groups account for less than 2.5% of the total users.

**Conclusion**

Utilizing historical and projected data, Dayhill has developed an internal estimate on the potential pass through cost to consumers of the adoption of PA – HB 1580. Our calculation resulted in a total pass through to residential users of less than $12 and to commercial and industrial users of approximately $168 during the Acceleration Period.